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TWO ALTERNATE THERAPIES FOR WEIGHT CONTROL

by

LYNNE MAUREEN MacLEAN

A THESIS

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Supervisor

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Date August 14, 1981

To everyone who has known
the stigma and pain of obesity

ABSTRACT

Obesity is a major health and psychological problem in North America, which is highly resistant to treatment. Hypnosis as a tool for treating obesity has been poorly researched and reported. The purpose of this study was to examine hypnotherapy for obesity, in relation to another treatment, and to determine if each therapy worked differently for different types of people. No significant difference in overall or weekly weight loss was found between Hypnosis and Cognitive-behavioral treatment though all groups lost wieght significantly.

Thirty-five volunteer subjects were measured on weight, locus of control, and hypnotic susceptibility, and were assigned to one of three groups: Hypnosis; Cognitive-Behavioral; or Waiting Control.

The Hypnosis group received a six week program using ego-enhancing suggestions, visual imagery, and body protection suggestions. Homework involved self hypnosis. The Cognitive-Behavioral group received six weeks of treatment, composed of self-monitoring, cognitive therapy, stimulus control, self reinforcement, and learning to deal with significant others, using a goal-setting, problem-solving approach. The Waiting Control group was put on a four week waiting list to control for time, and then received the cognitive-behavioral treatment. All groups had a lecture on dieting from a qualified nutritionist. All groups met for an eight week follow-up session.

Results indicated that subjects in all treatment groups lost significant weight; that locus of control and hypnotic susceptibility were not related to weight loss, and there were no differences during treatment or at follow-up between weight loss of the treatment groups. It was found that locus of control was correlated, negatively with obesity. As well, hypnotic susceptibility did not correlate with obesity or locus of control.

Results were compared to results of past researchers. Conclusions and implications for future research were discussed. All in all, this study's main finding was that hypnosis can be an alternative treatment of choice to behavior therapy, in the treatment of obesity.

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CHAPTER I

INTRODUCTION

Introduction to the Study

Man has invested much time and energy in searching for ways to treat his problems. Obesity is one such problem which is amazingly resistant to a variety of treatments. Hypnosis is one method of treatment which has a variety of clinical applications. Thus, the use of hypnosis in the treatment of obesity is of great interest to both the clinician and the researcher.

Clinical Importance of Hypnosis

Hypnosis has been used clinically from the time it first reached public attention via the practices of Franz Anton Mesmer, 1734-1815 (Hilgard, 1975). He was a famed Austrian physician who used "animal magnetism" (hypnosis) to bring on convulsions, after which his clients were dramatically cured of their complaints. Though Mesmer's theory of animal magnetism was soon disproved, hypnosis as a technique subsequently became used by such people as James Braid (1795-1860), Charcot (1835-1893), Sigmund Freud (1856-1939), William James, and William McDougall for treating the ills of both mind and body (Hilgard, 1975).

Today, clinical hypnosis is used by psychiatrists, psychologists, physicians and dentists. It is used in the treatment of emotional problems, psychosomatic illnesses, pediatric problems, neurological problems, skin ailments, and sexual dysfunctions. It is used to reduce and/or eliminate pain from surgery, childbirth and dentistry. And last, but not least, it is used in the treatment of obesity.

Research Importance of Hypnosis

Ever since Mesmer's dramatic cures, hypnosis has captured the imagination of western man. It can be both dramatic in its results, and in its presentation. Popularly, stage hypnotists capitalize upon its mysterious properties, and produce almost magical responses from the audience. Yet it need not be theatrically dramatic to produce results clinically (Orne, 1970). It is remarkably affected by demand characteristics of situations and by the motivation of both hypnotist and subject (Orne, 1970).

In fact, one of the major hypnosis theorists, T. X. Barber contends that hypnosis is basically highly motivated, conscious compliance on the part of the hypnotic subject. Since he has found many hypnotic phenomena to be replicable in non-hypnotized subjects, he contends that hypnosis is not an altered state of consciousness, like sleep or drug-induced states (Barber, 1969). He points to hypnosis' double bind: "How can we measure hypnosis? By the behavior it elicits. How can we elicit this behavior? Hypnotize the subject." Thus, producing the behavior without inducing the hypnosis, disproves the existence of a special state necessary for hypnotic behavior.

In opposition, Hilgard holds the view that hypnosis is an altered state of consciousness (Hilgard, 1974). Such people as

Orne (1970) point to experiments where different behavior is elicited from hypnotized, as opposed to waking subjects, especially when the demand characteristics of the situation are carefully controlled.

Proper controls when investigating a phenomena as elusive as hypnosis are something that Barber, Hilgard, and Orne all agree upon. Investigations into hypnosis, both from a clinical and experimental angle, have only begun to become properly controlled in the last decade. Thus new information about hypnosis, what it is, what it tells us about human nature, and how it can best be used for problems such as obesity, is on the increase. This study should help to add to that knowledge.

The Problem of Obesity

Obesity, the excess storage of fat in the body, is a problem with both physical and psychological aspects.

Physiologically, it has been associated with hypertension, heart problems, digestive problems, breathing problems, diabetes, and overall poor fitness. Though not always proveable as causal, it is linked to and often worsens the above health hazards. Weight reductions often result in an improvement in such conditions. A shortened life span is not uncommon with the obese (Mayer, 1968).

Psychologically, the obese person is lucky if all he gets is a somewhat lowered self concept. With society's constant stress upon the beauty of thinness, and that beauty means goodness, the obese (the "unbeautiful") are bound to suffer. Obesity has been historically linked to stupidity, self-indulgence, and moral weakness. As Mayer, 1968, puts it:

> *The old view of medicine, that patients are sick because of their sins, including their lack of self-restraint - a view which has been generally abandoned in the Western world even in the matter of alcoholism - still dominates as far as obesity is concerned.* (Mayer, 1968, p.1).

In fact, stupidity, self-indulgence, and/or moral weakness have not been found to be the cause of obesity (Mayer, 1968). Rather, the theories of causes range from genetic predisposition (Mayer, 1968), a quiescent ventro-medial hypothalamus resulting in sensitivity to external cues (Schacter, 1971), an increased level of internal and external arousal (Policy, Herman, and Warsh, 1978), conditioning of inappropriate eating habits and cognitions (Mahoney and Mahoney, 1976), and as evidence of deeper psychopathology (Wick, Sigman and Kline, 1971; Crasilneck and Hall, 1975; Hartland, 1971).

Now obviously there is a need for some societal education to remove the stigma of obesity. But beyond that there is an increasing need to educate the obese in weight loss and weight control. Not only will this involve an improvement in health, but a decrease in the conditions which, though perhaps not always the cause, serve to maintain a poor self concept and body image.

As North American life becomes increasingly sedentary, and high caloric foods increasingly available, obesity will continue to rise (Mayer, 1968; Cohen, 1978). In fact, as of 1968, 16% of the United States population was considered obese. It is time to discover the best methods for treating obesity.

As mentioned previously, maintenance of weight loss with the obese is highly resistant to treatment. Everything from intensive psychotherapy, group therapy, diet/food restriction, and major gastrointestinal surgery has been used. Even behavior therapy, which has been the most successful treatment to date (Rimm and Masters, 1974) has had limited success.

As far as hypnosis is concerned, it has been difficult to evaluate its success. Mott and Roberts (1979) found, in a review of the literature on hypnosis and obesity, that the studies have been poorly controlled.

Reports have been mostly anecdotal in nature, often no more than case studies. In none of the studies reported was hypnotherapy compared to other therapies to determine relative effectiveness, the suggestions and techniques have not been standardized across studies, and few follow-ups have been reported. Thus, there is a need to discover whether hypnosis is equally, more, or less effective than other therapies? And for whom?

Personality Correlates: Locus of Control and Hypnotic Susceptibility

Two personality correlates, which are of interest in investigating the effectiveness of hypnotherapy, are locus of control (Rotter, 1966) and hypnotic susceptibility.

Hypnotic susceptibility is a measure of responsiveness to hypnotic procedures (Hilgard, 1975). It usually is measured by one of several standardized scales in which subjects are asked to respond to suggestions.

There appear to be some differences between people of high and low susceptibility beyond how they respond to suggestions given in a hypnotist's presence. For example, high susceptible subjects have been found to be more likely to follow instructions under hypnosis than are low susceptible subjects. However, high susceptible subjects were less likely to carry out instructions, or try to please therapists and experimenters, than low susceptible subjects, when they were not hypnotized (Orne, 1970). Such a factor would have direct bearing on whether a subject would benefit most from hypnotherapy, or some other therapy.

Also, studying hypnotic susceptibility is of value in shedding light on the theory of hypnosis. Some support for Barber's view of hypnosis would be gained if high and low susceptible subjects responded equally, in terms of weight loss, in a properly controlled hypnotherapy weight-loss program. Similarly, Hilgard's theory would be supported if the high and low subjects responded differently. Besides hypnotic susceptibility, locus of control was also examined in this study.

Locus of control is a concept developed by Rotter (1966). A person's locus of control can be primarily internal or external. Someone with an internal locus of control perceives control of life events and reinforcement to be self produced. A person with an external locus of control perceives this control to lie outside of his efforts and to come from the external environment.

The experimental findings of hypnotic susceptibility, locus of control and weight loss have been contradictory and no clear relationships seem apparent.

Locus of control is an important area to consider since locus of control theory could help support one theory of obesity; that of Schacter (1971). Schacter suggested that obese people are more under the control of external stimuli, not just in terms of eating behavior, but in terms of a general, externally-oriented approach to life (Schacter, 1971). Such an orientation should be picked up by use of the locus-of-control scale, with obese people scoring more externally than normals.

Thus the question of whether the obese are different in locus of control (more external) from normals is of concern. Some other questions in this area of hypnotic susceptibility and locus of control are: Is hypnotic susceptibility related to weight loss? Are the obese different from normals in hypnotic susceptibility? Are locus of control and hypnotic susceptibility related? Do people of different locus of control benefit from different types of therapy?

The literature in these areas is unclear. Thus replication and examination of such questions is important.

Purpose of the Study

The purpose of this study was to examine hypnosis as a treatment for obesity and to determine:

1. Is hypnosis less, more, or equally effective than an overt (as opposed to covert conditionings) cognitive-behavioral approach?

2. Do different kinds of obese people respond better to some treatments than to others?

Significance of the Study

The findings from this study will help to determine:

1. Whether a subject's locus of control and/or hypnotic susceptibility affect the success of a hypnosis-based treatment program.

2. Whether obese women as a group have different loci of control and/or hypnotic susceptibility than the normal-weight population.

3. How hypnosis stacks up against cognitive-behaviour therapy as a treatment for obesity.

Design of the Study

This study consisted of comparing the weight loss of three groups, meeting weekly for seven weeks. One group received a standard hypnosis treatment consisting of self hypnosis, ego enhancing suggestions (Hartland, 1971), visual imagery, and anti over-eating rote instructions.

The second group received a cognitive-behavioral approach of learning to modify their own cognitions and behaviors. (Mahoney and Mahoney, 1976).

The third group controlled for the passage of time by receiving no treatment for four weeks. Then their initial weight was compared to their post waiting period weight. Then they arbitrarily received the cognitive-behavioral treatment as there was no significant difference in weight loss between the two treatment groups by week four of treatment, and there were no drop-outs in the first cognitive-behavioral group.

Prior to treatment, each subject was measured on locus of control and hypnotic susceptibility. Both these measures were correlated with original percentage overweight and each other, and compared to norm scores to determine if the obese differed from normal.

Brief Overview of the Study

Chapter One has consisted of a general introduction, and introduced the significance and the design of the study. Chapter Two provides an examination of the related literature. Chapter Three gives the method and design in detail. Chapter Four is an analysis of the results. Chapter Five consists of Discussion and Conclusions, as well as of suggestions for future research.

CHAPTER II

RELATED LITERATURE

Weight Loss: Nutritional Aspects

Regardless of the type of obesity (other than some rare endocronological cases), obesity is due to overeating, inactivity, or a combination of both (Briggs and Calloway, 1979; Mahoney and Mahoney, 1976). That is, in these individuals there has been a surplus of energy intake over output.

In terms of planning a nutritionally sound reducing regimen, most sources agree with the following suggestions (Briggs and Calloway, 1979; Mahoney and Mahoney, 1976; Mayer, 1968):

Total fasting is very unhealthy, as there is a marked loss of potassium and sodium, build up of uric acid, and possible gout, and possible heart and liver failure (Briggs and Calloway, 1979).

A good diet is not less than 1,000 - 1,200 kilocalories (kcal) per day for a woman, or less than 1,600 kcal/day for men. Diets should be well balanced, including foods from all the food groups, and cutting down on fats and carbohydrates, especially carbohydrates with little nutritive value, such as sugar. Consumption of alcohol, another source of nutritionally empty calories, should also be cut down. Protein, minerals, and vitamins must be at least adequate, nutritionally, as found in The Canada Food Guide, which provides guidance for adequate nutrition for laymen.

Diets should have good satiety value, have variety and flexibility, and be enjoyable so they can be used over long periods of time without boredom or frustration on the part of the dieter. Fad diets are to be avoided.

Dieting should take into account the dieter's physical activity level, and be adjusted so that more active people are allowed more kcal/day than less active people. Exercise should be encouraged and increased gradually. This is not only for the sake of general fitness, but because there is evidence to suggest that, regardless of treatment type, people who exercise keep weight off the longest (Gormally, Rardin, and Black, 1980; Dallkoetter, Callahan, and Linton, 1979).

All in all, a well-balanced diet combined with exercise, producing a safe weight loss of 1-2 pounds (lbs)/week (or .5 - 1.00 kilograms (kg)/week) is the best approach to the type of psychotherapy used (Briggs and Calloway, 1979; Mahoney and Mahoney, 1976; Mayer, 1968).

Selected Psychological Treatments of Obesity

As has been mentioned previously, obesity is highly resistant to treatment. This section shall focus on three approaches to the treatment of obesity: behavior therapy, the most successful treatment in recent times; cognitive-behavior therapy, and how it has evolved from and improved on behavior therapy in the treatment of obesity; and hypnotherapy, a treatment of experimentally undetermined effectiveness.

These three approaches have been selected because, as was established in Chapter I, hypnotherapy is the treatment of study and it is important to determine whether it is more, less, or equally effective than the psychotherapy showing the best treatment results. As behavior therapy is generally considered to be the best treatment for obesity, it is important to examine behavior therapy's success. As well, it is important to examine the indications that it is actually cognitive-behavior therapy which has most empirical support for its treatment of obesity.

Behavior Therapy and Treatment of Obesity

What is behavior therapy?

> *"We include under the label 'behavior therapy' any of a large number of specific techniques that employ psychological (especially learning) principles to constructively change human behavior....The term 'behavior' is interpreted broadly to encompass covert responding....when such can be clearly specified, and overt responding."* (Rimm and Masters, 1974, p.1)

As well,

> *"There is a clear insistence that techniques designated as behavior therapy be derived from empirical research and... remain accountable...to continued research."* (Rimm and Masters, 1974, p.vii)

Behavior therapy has long been considered one of the most effective therapies for the treatment of obesity. Bellack (1977) reports that early reviews of non-behavioral treatments for obesity showed traditional methods of psychotherapy had almost no effect. The findings are similar in more recent research. Wollersheim (1970) compared the weight loss and maintenance of weight loss of four treatments for obesity: a behavioral group, a group using high-expectation of, and social pressure for, weight loss, an insight group, and a waiting control group. Although all three therapy groups lost and maintained weight significantly better than the control group, the behavioral group lost significantly more at both treatment end and at eight-week follow-up, than all the other groups. Stuart (1977) found that the addition of behavioral techniques to programs from such established weight loss organizations as T.O.P.S. (Take Off Pounds Sensibly) and Weight Watchers, resulted in significantly greater total weight loss than when those programs were used alone. (Stunkard (1972) reports:

> *"...both greater weight loss during treatment and superior maintenance of weight loss after treatment indicate that behavior modification is more effective than previous methods of treatment for obesity."* (*Stunkard, 1972, p.398*)

In a review of the literature in 1977, Stunkard states, that in the years 1975-1977, in over 30 controlled clinical trials, behavior modification again consistently produced more weight loss than a variety of other treatments. As well, he states that amount of weight lost through treatment appears to be increasing.

However, one of the difficulties of comparing other psychotherapies to behavior therapy lies in the lack of presentation of weight loss data and use of empirical design in reports of most other therapies. In a study looking at all available articles on out-patient treatments for obesity for the years 1966-1977, Wing and Jeffrey (1979) employed the following criteria for useful comparison of different treatments: Studies had to present enough information to compute the average number of pounds lost in treatment of at least five overweight, healthy adult out-patients. Using this minimal set of criteria, only four categories of treatment were utilizeable: drug, diet, exercise, and behavior therapy. Most psychotherapies did not even meet these minimal requirements. There was one acupuncture, two self-help group therapy, one hypnotherapy, and two analytic psychotherapy articles that met these criteria, and the numbers of these studies were too small to allow an adequate comparison. It is interesting to note that when behavior therapy is thus compared to more physiologically-based programs (diet, drug, and exercise), not using behavioral principles, there is little difference between programs in amount of weight lost. However, behavior therapy results in the best maintenance of weight loss over time.

So far, the best that can be said as of 1977, is that behavior therapy appears to be superior to other psychotherapies, as found in studies where different therapies are examined within the same experiment. Also, that behavior therapy is as good as physically based weight loss treatments in getting the weight off, and is better at keeping the weight off.

Behavioral Techniques

There are a variety of techniques commonly employed in the behavioral treatment of obesity. The major ones are aversion therapy, stimulus control, self monitoring, self reinforcement, and financial contingencies (contingency contracting). When looked at in isolation, none of the above appear to have the answer to increasing the power of behavioral treatment of obesity, but are more useful when combined with each other.

"Aversive therapies" have proven the least successful in treating obesity and are not now much in use. These techniques involve use of punishment for inappropriate eating (e.g. giving money to a hated person, a non-smoker having to smoke, visual images of oneself as fat and ugly) or use imagery in imagining specific desirable foods in a revolting manner (chocolate cake that is smelling nauseous). Besides the problem of client discomfort, these techniques are used in a limited fashion because they teach the client what not to do, not what the client should do; they often focus on one or two specific foods and usually obesity is a result of more widespread maladaptive eating; and when used alone, these techniques seldom procude much weight loss (Bellack, 1977; Rodin, 1978).

"Self-monitoring" involves the client keeping records of his eating behavior (when, what, with whom, emotion at the time). This serves not only to provide data for determining the cues setting off eating behaviors for subsequent modification, but also the client starts to decrease his eating as he becomes more aware of his behavior, even before a treatment plan is put into effect. This is considered an essential component to many researchers (Stunkard, 1977; Rodin, 1978; Bellack, 1977). However, it is not useful by itself over the long term. Clients will lose weight with self monitoring alone, for a week or two, but fail to maintain the weight loss unless other techniques are added (Bellack, 1977; Rodin, 1978).

"Financial Contingency" usually involves the client setting aside a sum of money to be returned in small amounts, as weight and/or habit change occurs. This appears successful only when administered by an outside agency (therapist) and works no better in producing weight loss than any other single component. It does prevent drop-outs in programs (Bellack, 1977).

"Self-reinforcement" involves the client giving himself short term rewards for weight loss or habit change, rather than waiting for the long term reward of reaching goal-weight. This appears to be an effective technique, especially when applied to habit change (Mahoney, 1974; Johnson, Stalonas, Christ, and Pock, 1979) but only to the degree to which clients complied with procedural directives (Bellack, 1975).

"Stimulus Control" focuses on the cues antecedent to eating behavior. Typically, a client uses his or her self-monitoring records to see which conditions lead to overeating. This may result in such interventions as separating eating from other activities, making high calorie foods unavailable or inconspicuous, altering size and appearance of food portions, eating slowly, and reduction of eating to avoid waste (Mahoney and Mahoney, 1976). According to Bellack (1977, research provides strong support for the usefulness of Stimulus-Control procedures. However, almost all studies supplemented stimulus control with additional therapeutic elements (e.g. self-monitoring, exercise). He asserts clients require reinforcement aside from new information. The stimulus-control procedures might well be effective as the core of a more complex program, but it is unlikely that they are effective by themselves (Bellack, 1977, p.14).

This appears to be the case for all the components in general. They work best in combination with each other. Actual combinations are numerous. There are the Self-Control combinations where the client is the central force in his or her own treatment, using self-monitoring, stimulus control, and self-reinforcement (Bellack and Schwartz, 1976; Stuart, 1971). There are endless individual ones depending on the wishes of each therapist. The most successful ones appear to combine the elements of self-monitoring, stimulus control, and reinforcement of adaptive eating behavior, either externally administered or self administered (Johnson et al, 1979; Wing and Jeffrey, 1979; Bellack, 1977; Bellack and Schwartz, 1975; Stuart, 1971; Heckerman and Prochaska, 1977).

Problems with Behavior Therapy and Obesity

Though behavior therapy may thus appear to be the treatment of choice, there have been dissatisfactions with it. Most obese clients have more than 20 pounds to lose, and only two or three investigators have reported losses of that magnitude (Musante, 1976). Also, follow-up studies of a year or more are rare. Those studies that do report follow-ups a year or more later, do not report continued weight loss or maintenance of great success (Bellack and Schwartz, 1976; Heckerman and Prochaska, 1977; Stunkard, 1977; Wooley, Wooley and Dyrenforth, 1979; Gormally, Rardin and Black, 1980). These dissatisfactions have led to attempts to isolate effective therapy components, re-examination of traditional behavioral views of eating behaviors, and the resultant use of cognitive therapy techniques which are an outgrowth of traditional behaviorism. Since the cognitive approach is based on the behavioral approach, its research style is similar, thus making it possible to adequately compare findings in the two areas. This sequence of self-evaluation and change in the behavioral approach to obesity will be followed, and the contribution of the cognitive approach will be assessed.

The Importance of Cognitive Variables in Eating Behavior

As Bellack (1977) puts it: "Unanswered questions of application of behavioral techniques far exceed the answered questions" (P.26). Researchers and clinicians have come to the view that they must tailor treatments to the individual, taking into account such internal behaviors ("cognitions") and commitment and expectations (Marston and Feldman, 1972; Bellack and Schwartz, 1976). Here may lie the answers.

This line of thought (tailoring treatment to meet the individual's needs and cognitions) stems in part from literature showing that people's perceptions affect their eating behavior.

Slowocher (1976) did an experiment which showed that obese people's internal state of arousal and the cognitive labels they attach to that arousal affect the eating behavior of the obese. When obese people became aroused by listening to a rapid heart beat which they were told (falsely) was their own, they ate significantly more (immediately after hearing the heart beat) when they couldn't identify a reason for the arousal, than when they were given a label for the arousal. Also, the obese showed a considerable decrease in affect after eating. Obese people listening to a slow, false heart rate ate the same amount, whether a label for the slow heart rate was supplied or not. These "calm" obese people (slow heart rate) ate significantly less than the obese in the aroused conditions. (Normal people ate less when "aroused", more when "calm", regardless of labelling condition). According to Slowocher (1976) the "eating behavior of the overweight person is affected by factors other than the external salience of food cues". Cognitive variables such as arousal and the labelling (emotional and attributional) are important.

Rodin, Slowocher and Fleming (1977) found that emotional responsiveness to external cues (picture slides) were related to weight gain. At times when a person is more external (responsive to external emotional cues) they are more likely to gain weight. Externality can predict weight gain but not the level at which weight is maintained. They found that low overweight and moderate overweight women with childhood-onset obesity were more external than their obese counterparts. Conversely, with adult-onset obesity, low overweight women were less external than their obese counterparts. Thus, this affective variable of emotional externality in some way mediates weight maintenance as well as weight gain (or loss).

Spencer and Fremouw (1979) also found that clients' perceptions affect their eating behavior. They divided obese and normal weight subjects into two categories: restrained (dieting, or controlled diet) behavior therapy is thus compared to more physiologically-based programs (drug, diet, and exercise), there is little difference between programs in amount of weight lost. However, behavior therapy results in the best maintenance of weight loss over time.

So far, the best that can be said as of 1977, is that behavior therapy appears to be superior to other psychotherapies, as found in studies where different therapies are examined within the same experiment. Also, that behavior therapy is as good as physically based weight loss treatments in getting the weight off, and is better at keeping the weight off.

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Spencer and Fremouw (1979) also found that clients' perceptions affect their eating behavior. They divided obese and normal weight subjects into two categories: restrained (dieting, or controlled diet) and unrestrained eaters. Subjects were told that this was an experiment to see how tasting one thing first (a milkshake) affects their taste of subsequent food (ice creams). Subjects were told that the milkshake was either high or low in calories. (Calories did not vary, only the label was different). The data showed that obese-restrained behaved like normal-weight restrained subjects, and the same for unrestrained obese and normal subjects. The unrestrained eaters ate the same amount of ice cream regardless of how the milkshake was labelled. However, the restrained eaters ate significantly more ice cream when told the milkshake was high calorie. Subsequent questioning indicated they felt they had already broken their diet so what was the point in further restraint? This indicates that dealing with perceptions and maladaptive (e.g. "I've blown it already! Why not pig out?) cognitions may be important to deal with in therapy.

Many behaviorists would claim that it's fine to indicate cognitive mediation in eating behavior. They have never denied that people feel and think. The question is, does changing cognitions have any effect in therapy? Otherwise, it would appear that they (cognitive techniques) are superfluous and therapists may as well stick with pure behavior therapy.

Cognitive Therapy

Dunkel and Glaros (1978) wondered if Stuart's Stimulus Control treatment for obesity could be improved by adding a selfinstructional procedure similar to Meichenbaum's (1977) stress innoculation techniques. Here subjects were given covert self statements to help them cope with hunger, frustration, fatigue, and boredom. Dunkel and Glaros used four treatment groups: 1. self-instructional; 2. stimulus-control; 3. self instructional and stimulus control combined; 4. relaxation placebo/control. All subjects met for a a 75 minute weekly session for six weeks, with a seven week follow-up. They found that the combined group lost the most weight, significantly more than the self-control and the self-instructional groups, which lost significantly more than the relaxation placebo/control group. The self-control group alone, however, performed better than the self-instructional group alone over the short term. Only the self-instructional and self-instructional and self-control combined groups continued to lose weight after treatment. The authors claim that this is become stimulus control and relaxation techniques tend to be bound to treatment conditions and don't generalize to home conditions as well. Thus self-instruction was considered a useful and important addition to behavioral treatment (Dunkel and Glaros, 1978).

Kincey (1980) discovered that subjects tend to lose more weight when they were given to expect that high targets of weight loss (more than two pounds per week) were achieveable as opposed to when they were told to expect loss of one to two pounds per week (low realistic) in a behavioral program. Varying the behavioral variable of immediacy of reinforcement had no such effect. It appears the cognitive variable of expectancy plays a role even in behavioral programs of weight loss.

Carroll, Yates, and Gray (1980) found an interesting interaction between how positively (highly) subjects evaluate their own accuracy in estimating time intervals and weight loss. They found that people who evaluate their accuracy as high lose more weight in behavioral groups and lose more than low self-evaluators. Low evaluators, on the other hand, lose more weight than high evaluators in non-behavioral groups (TOPS and "sharing" approaches). (Low evaluators lost the same amount of weight in either group.) They suggest that high self-evaluators may reinforce themselves more for successes and would do best in behavioral groups where conditions for reinforcement are clear. Thus there would be less intermittent self reinforcement for bad food habits and less using of food to reward themselves (Carroll et al, 1980). It appears that the client's perception of his abilities also make a difference in determining his success or failure in a behavioral weight loss program.

Mahoney and Mahoney (1976) have found that the "Cognitive Ecology" component of their otherwise behavioral weight loss treatment program, to be very effective, and perhaps the most important component. Cognitive Ecology ("cleaning up what you say to yourself") revolves around the detection and alterations of maladaptive thought-feeling patterns. Such patterns are fatalistic, unrealistic, self-blaming and catastrophic. Clients learn to detect, challenge, and substitute adaptive patterns for the maladaptive, food-related cognitions (Mahoney and Mahoney, 1976).

Musante (1976) states that behavioral treatment for obesity is good but that affective and cognitive re-education are necessary components for long lasting change in eating behavior. It is necessary to intervene at cognitive, behavioral and consequence points in the "closed circle of obesity". Otherwise behavior of overeating leads to consequences of being fat, leading to cognitions of depression and low self-esteem, which leads to more overeating. Behavioral techniques are good for behaviors and consequences, with verbal reconditioning of self-denigrating thoughts and feelings intervening at the cognitive point. Musante's program has been considered one of the most effective in procuring weight loss (Wing and Jeffrey, 1979; Musante, 1976).

Besides behavioral techniques, Rodin (1978) makes use of attribution theory to help people replace maladaptive representations and attributions about themselves, others, events and eating. She claims people respond to interpretations and perceptions of events, not the events themselves. She uses attributional techniques to change labeling, attributions of success (personal attributions for successes, situational attributes for failures), negative self statements, and goal setting. Miechenbaum's (1977) coping mechanisms are taught and used. She also espouses use of relaxation training to help deal with emotional eating. Unlike many pure behavioral programs, people who lose in the short term continue to lose over the long time. After a 1-1/2 year follow-up over 30 clinical settings using her programs, 60% of initial losers continued to lose weight since treatment ended. This finding is of a magnitude rarely found in the few behavioral follow-ups that are a year or more after treatment ends.

Thus it appears that the addition of cognitive components to behavioral treatments of obesity both increases amount of weight lost, and, most importantly, greatly improves weight loss and maintenance.

Cognitive-behavioral combinations appear more powerful than either alone for weight loss over the long term. Cognitive techniques appear to be an important component in effective behavioral treatment of obesity.

Hypnotherapy

Empirical Problems:

The contribution of hypnotherapy to the treatment of obesity is difficult to evaluate. In a recent review of the literature Mott and Roberts (1980) found not only a wide variety of hypnotic techniques in use, but also found a wide variety of flaws in reports of the findings.

Techniques used encompassed "ego-enhancing" suggestions of greater self esteem and independence (Stanton, 1976, 1975, 1974; Hartland, 1971); "hypno-aversion" (i.e., covert sensitization following trance induction) (Miller, 1976; Tilker and Meyer, 1972; Hershman, 1955); self-hypnosis (Aja, 1977); Wick, Sigman, and Kline, 1971; Kroger, 1970); visual imagery incorporating a "desired weight" image of themselves (Stanton, 1975; Winkelstein, 1959); paradoxical encouragement of relapse (Hanley, 1967); "body protection" suggestions of "1) For my body, overeating is a poison; 2) I need my body to live; 3) I owe my body this respect and protection" (Spiegel and Debetz, 1978; Aja, 1977) and behavioral stimulus control techniques following a trance induction (Glover, 1961; Winkelstein, 1959; Wick, Sigman and Kline, 1971; Aja, 1977). Both group and individual treatments were used (Mott and Roberts, 1980).

This variety of techniques in poorly controlled studies results in the first problem with the literature: that neither hypnotic induction techniques nor suggestions are standardized across studies, resulting in almost no replications of findings. "When a given therapist has positive results in terms of client weight loss, it is unclear what aspects of the treatment are helpful" (Mott and Roberts, 1980).

Other problems involve lack of long term follow-ups. As was seen in the behavioral literature, successful weight loss does not always (or often) mean successful weight loss maintenance. Only two studies used follow-ups of more than a year in length. Of these studies, one (Stanton, 1975) performed no analyses on his results (although all ten subjects were within a few pounds of their target weights after two years). The other study (Herschman, 1955) presented four case histories.

While case histories often add valid information and findings for forming hypotheses, the very nature of the uniqueness of the histories does not allow generalizations (that is, unless multiple-mixed baselines are used, which are rarely found in hypnosis and obesity experiments). "The hypnosis literature is dominated by anecdotal reports, often single case studies, rather than experimental approaches." (Mott and Roberts, 1980, P.3).

Another major difficulty in comparing the studies lies in the lack of information about the subjects themselves. Age, sex, social class, and hypnotic susceptibility, are important variables which are often not mentioned. There was considerable variation from study to study in what was considered obese (this criticism can be applied to psychotherapy's general approach to obesity). Mild, moderate, and extremely obese people were randomly lumped together in treatment, apparently without regard to whether the experimenter wanted to study the effect of hypnotherapy over all types of obesity, in a systematic fashion.

However, all studies reported significant success of weight losses of at least one to two pounds per week, and often of greater magnitude. Many experimenters found that their subjects reported that the hypnosis route to weight loss was singularly pleasant and effortless (e.g. Glover, 1961; Aja, 1977). Such findings make hypnosis a relevant subject for controlled study in the treatment of obesity.

As Cohen (1980) puts it:

> "*The survey by Mott and Roberts must cause us to think. What is the proper role of hypnosis in the treatment of obesity? Are there particular subgroups of obese patients in whom the technique may be successful? What other associated techniques (diet, behavior modification, etc.) need to be added to increase chances of success?*" (P.2)

One study was found which did compare hypnosis with one aspect of behavior therapy in the treatment of obesity. Devine (1978) compared 58 subjects receiving covert modelling only (visual imagining of themselves successfully dieting), covert modelling following trance induction, no-model scene control, and an eight week waiting control group (who later received treatment). All groups lost weight, with the only significant difference in weight loss coming between the combined hypnosis-covert modelling group and the no-model controls. This suggests that combined-treatment hypnosis packages are more successful for weight loss than are single component approaches, just as package treatments are more successful for the behavioral approach.

No studies were found comparing good hypnosis treatment packages with other treatment packages. Not only do studies comparing hypnosis treatment packages with other treatment packages offer more powerful effects to compare, but such studies would be more ecologically valid. That is, therapists are more likely to use a combination of treatment techniques from an approach with a client, than they are likely to use a single technique. This is especially true with a problem such as obesity, which is pervasive and general, as opposed to a snake phobia, which is specific and situation-bound (Rimm and Masters, 1974). As has been shown, behavioral and cognitive-behavioral programs use treatment packages backed up by relatively good research on both the treatment package's individual components and the components in combination. In this study, Mahoney and Mahoney's (1976) cognitive-behavioral program was chosen for its standardized format and for the good empirical support for its components and their combinations. Such a choice of a hypnotherapy package is difficult as results are so inconclusive as to what hypnotherapy techniques work best, alone, and combined. How was such a choice arrived at?

Choice of Hypnotherapy Techniques For This Study

In keeping with the goals of replication and standardization, word-for-word copies of suggestions used must be available. Also components of treatments could not include behavioral techniques, such as covert sensitization, stimulus control, etc. Treatments must be utilizeable in a group format for approximately a six week time period and use homework (in this case self-hypnosis) in order to be comparable to the cognitive-behavioral program.

For these reasons, Stanton's 1975 four week program, using Hartland's (1971) ego-enhancing instructions, followed by visual imagery of slimness, was combined with Aja's 1977 three week group approach using body protection suggestions. Both programs made use of self-hypnosis homework assignments. These programs and their combination are further detailed in Chapter III and Appendix D.

Locus of Control and Directiveness of Psychotherapy

A fair number of studies have been done investigating the hypothesis that internal locus of control subjects do better in non-directive therapies and external subjects do better in directive therapies. This is theoretically due to the idea that externals respond more positively to and prefer directive therapies because the therapy matches their belief in external control of their lives. Internals prefer and respond to non-directive therapies since they are allowed more control of the process of therapy (Messer and Meinster, 1980). As can be seen from a survey of the literature, results are unclear.

Kilmann et al (1975) found that internals responded better to unstructured growth group experiences and externals responded better to structured experiences. However, lack of specific treatment goals (i.e. "growth") makes it hard to evaluate this study's results and relevance to clinical populations.

Abramowitz (1974) looked at nondirective and directive group approaches to improving personal adjustment and social skills.

Based on self report measures, it was found that internals did best with directive treatments.

(Best and Steffy, 1971, 1975) found such a treatment by locus of control interaction using smoking withdrawal procedures.

It has been found that internals generally prefer nondirective approaches and externals prefer directive ones (Friedman and Dies, 1974), but preference does not mean the same thing as responsiveness to treatment. Several studies have found no such interaction between directiveness of treatment and locus of control, especially when behavioral measures of change were used. In some studies of female addict populations (Kilman and Howell, 1975), smokers in general (Donahue, 1977), and clients with social anxiety, no interaction between treatment-type and locus of control was found. Some studies, in fact, suggest that internal clients respond better to any treatment, although results here are still unclear (Balch and Ross, 1975; Messer and Meinster, 1980).

According to Messer and Meinster, 1980, "deficiencies in design, statistical analysis, and outcome measures offer only slim support for the current interaction hypothesis." (P.283). However, results are suggestive enough to require further investigation using properly controlled research. As has been shown in Chapter I, such an interaction would be important to determine when the treatment of obesity is of concern.

Common Measurement Techniques

Obesity:

Several measurement techniques have been developed to assess obesity. They range from simple observation to calculation of mathematical formulae using figures obtained from medical equipment.

Simple Observation

Looking at oneself naked in a mirror is a good informal determinant of obesity. If you look fat, you probably are fat (Mayer, 1968). This method is poor in precision, however.

The Pinch Test

Based on the fact that 50% of total body fat is located directly under the skin, calipers are used to pinch up skin and subcutaneous fat from various parts of the body. The thickness of the resulting skinfold is measured. Mathematical equations are used and the amount of body fat under the skin is estimated. Then, arbitrary cut off points of skin thickness are used to establish degree of obesity (Briggs and Calloway, 1979; Mayer, 1968). This method, while precise, is difficult to use in studies requiring large numbers of subjects, who each require calipers and expertise for home measurement, because calipers cannot be used for self measurement. As well, they are expensive and a great deal of practise is required to use them with precision.

A less sophisticated, less precise, version is the "educated pinch test" (Briggs and Calloway, 1979) using an informal guideline of obesity being present if greater than one inch width of skinfold is pinched up between finger and thumb at various body sites.

The Ruler Test

If a person is not too fat, a ruler placed along the mid-line of the body should touch both the ribs and the pelvic area (Mayer, 1968).

The Belt Line Test

In men, the chest circumference at nipple level should exceed abdominal circumference at navel level, otherwise abdominal fat is excessive. Both the Belt-line test and the Ruler test provide useful, though inexact, guidelines for laymen, but are not precise enough for experimental purposes (Mayer, 1968).

The Densimetric Method

This method is based on the principle that fat has a lower specific gravity than water, so fat tissue buoys up the human body in water. The greater the amount of fat, the greater the buoyancy. Thus one can determine the ratio of lean to fatty tissues in the body. The weight of the body when immersed in water divided by the weight of the water displaced, or comparing a person's weight as measured in air to their weight immersed in water, give true indices of the amount of body fat. This method is quite precise (Briggs and Calloway, 1979; Mayer, 1968). Again, though, this method requires special equipment and makes home measurement difficult.

Other techniques giving excellent precision at the expense of money and convenience are:

Hydrometry: the measurement of total body water by injecting a fat diluting substance and determining its concentration when distributed throughout the body (Mayer, 1968).

Determination of Whole Body Potassium: Potassium is not found in body fat. Counting gamma rays emitted by the radioactive isotope of potassium which accompanies the nonradioactive potassium present in the body, allows determination of the proportion of potassium to body size, and of non-fat to fat tissues (Mayer, 1968).

Anthropometric Measurements of body build, skin width, bone, and muscle layer width via soft-tissue x-rays (Mayer, 1968).

Another technique requires little equipment, can be used at home, and is more precise than the use of simple observation and the other laymen techniques. This is the use of "Ideal" Weight for Height Tables.

"Ideal" Weight for Height Tables are tables of ideal weights for adult height for men and women of small, medium, and large frames. The Metropolitan Life Insurance Company tables base ideal weight on pooled company experience of weights corresponding with greatest longevity. Sample size is in the several million (Mayer, 1968).

This and other weight tables can be criticized on the grounds that "they do not discriminate "overweight" from "overfat" (Briggs and Calloway, 1979; Mayer, 1968). That is, a football player may be much heavier than the "ideal" weight for his height, but his weight comes from muscle, not fat. He is "overweight" but not "overfat".

However, if paired with other more informal indices of fat, such as the mirror test, these tables have advantages for running experiments with large groups of subjects: Equipment is minimal and cheap; can be used easily by subjects in treatment and at home; provides quantitative data; and since the tables are based on clothed subjects wearing shoes, shy subjects need not disrobe.

Hypnotic Susceptibility

In order to provide a standard set of meanings to describe hypnosis, and to measure how hypnotized or hypnotizeable a subject is, procedures and criteria have come to be standardized. Currently, hypnotic responsiveness is measured using continuous scales (Sarbin and Coe, 1972). Subjects are usually hypnotized and then asked to respond to a series of suggestions. Behavior considered characteristic of the hyponotized state is assessed, as the subject does or noes not respond to the suggestions (Hilgard, 1965).

Major Current Hypnotic Susceptibility Scales

The Stanford Scales:

Starting in 1959, Weitzenhoffer and Hilgard (1959) undertook to revise the Friedlander-Sarbin (1938) scale. Friedlander and Sarbin (1938) developed a scale using suggestions of eye-lid closure, negative suggestion tests (eye catalepsy, arm immobilization, arm rigidity, finger lock, verbal inhibition), post-hypnotic voice hallucination, and amnesia. Subjects were tested individually, and scoring was based on resistance time until the suggestion was followed, or amount of prodding needed, or (for amnesia) number of items recalled. Thus scoring was continuous, not discrete.

Weitzenhoffer and Hilgard produced the Stanford Hypnotic Susceptibility Scales, Forms A and B, in 1959. They used many of the same items and a similar induction to that in the Friedlander-Sarbin scale, but added a few easier suggestions interspersed with difficult ones, and simplifed the scoring system. Before-and-after type studies are possible, as the two forms are essentially equivalent (Hilgard, 1965).

The Stanford Hypnotic Susceptibility Scale, Form C, was designed to be used after Form A in selecting susceptible subjects for more advanced study (Sarbin and Coe, 1972). Induction is similar to Forms A and B, but is optional and not scored. Items are listed in ascending order of difficulty, making shorter administration possible (i.e. stop when a subject starts to fail items). More cognitive type items (hallucinations, dreams, age-regression) are found than in Forms A and B (Hilgard, 1965).

The Stanford Profile Scales of Hypnotic Susceptibility, Forms I and II (forms of equal difficulty) provide diagnoses of moderately susceptible subjects' differential hypnotic abilities (i.e. what each subject can and cannot do, when compared to subjects of similar susceptibility) (Hilgard, 1965).

The Harvard Group Scale of Hypnotic Susceptibility, Form A

Shor and Orne (1962) modified the Stanford Hypnotic Susceptibility Scale, Form A, for group administration. After administration, subjects are asked to score their own responses as they would expect an outside observer to rate their responses.

The Children's Hypnotic Susceptibility Scale

This scale was designed by London (1962) to measure hypnotic susceptibility of children in two age groups (ages 5-0 to 12-11 and ages 13-0 to 16-11) It is in two parts: Part I is comparable to Form A of the Stanford scales; and Part II is composed of items in Form C of the Stanford scales or in Forms I and II of the Stanford Profile Scales of Hypnotic Susceptibility. Items are adapted for ease with working with children, and scoring uses qualitative observations as well as quantitative scores (Sarbin and Coe, 1972).

The Barber Suggestibility Scale

This scale, developed by Barber and Glass (1962) is designed to test hypnotic-like behavior with or without prior induction of hypnosis. It makes use of Barber's task-motivational instructions (i.e. exhortative, encouraging instructions) (Barber and Glass, 1962). Both subjective and objective scoring criteria are used (Barber, 1969).

Locus of Control: Measurement of locus of control is still in the early stages of development.

Rotter's Internal-External Locus of Control Scale (The I-E Scale)

Rotter's (1966) scale was the first of its kind and has been well received and widely used. However, Rotter's I-E Scale (1966), a 29 item forced-choice questionnaire (described in more detail in Chapter II) has come under some criticism of late. Various researchers contend that the concept of locus of control is multidimensional and different situations involve different types of control. Using factor analysis, Mirels (1970) found two independent factors: 1) belief in whether ability and hard work rather than luck influence personal outcomes; 2) whether a citizen can or cannot exert some control in political and world affairs. Schneider and Parsons (1970) found five factors: luck or fate; respect; politics; academics and leadership; luck or fate. Gurin, Gurin, Lao and Beattie (1969) found two factors similar to those found by Mirels (1970). Collins (1974) found four factors: 1) the world is unjust; 2) the world is difficult; 3) the world is governed by luck; 4) the world is politically unresponsive. Levenson (1973) has found three components: 1) internal control; 2) control by others; 3) control by chance. However, as Phares (1976) puts it:

> *"One should recognize that factor-analyzing the I-E scale into two or more factors is one thing and demonstrating the differential predictive utility of these separate factors is something else. At the present time there is evidence for the existence of separate factors but there is much less evidence that demonstrates their predictive utility."* (P.48)

In fact, Balch and Ross (1975) found that neither of Mirel's (1970) weight loss factors predicted weight loss as well as did Rotter's full scale.

However, Rotter himself points out that the purpose of the I-E scale is to cover generalized, not specific orientations to locus of control (Rotter, 1975). As well, he points to specific situations in which the I-E scale has not predicted well, or shown consistent relationships between situations and locus of control. The I-E scale taps generalized expectancies which allow for a low degree of prediction of behavior across a wide range of situations rather than specific expectancies with higher predictability to particular situations (Rotter, 1975). The I-E scale essentially "averages" an individual's locus of control over many situations and just because an individual is overall internal, it doesn't mean they are internal in every situation (Phares, 1976).

In summary, the locus of control I-E scale is meant as a basic tool for determining locus of control in general. As such, it is composed of various aspects of locus of control. These aspects may be useful in specific situations, and deserve separate scales when a specific situation (related to one of those aspects) is of interest. To date, only one other such locus of control scale for adults appears to have predictive utility (Lefcourt, 1976). That is Levenson's (1973) three scales.

Levenson's Scale

Levenson's (1973) locus of control scale is in fact three separate scales, measuring her factors of internality, of control by powerful others, and of control by chance. Levenson (1974) found political involvement was predicted by low "control by chance" scores, and was not predicted by internality, or control by powerful others.

Institutionalized populations (psychotics, neurotics, and prison inmates) were found to have high "control by others" scores, but no relationship with internality and control by chance (Levenson, 1973).

Levenson's main contribution has been production of a scale with good predictive utility, and that three aspects of locus of control can coexist independently (Lefcourt, 1976). Thus, there are advantages to using Levenson's scale for investigating phenomena related to her subscales.

Choice of Locus of Control Scale In This Study

It appears that Rotter's 1966 instrument may be the scale of choice over Levenson's. Rotter's scale's very generality is useful to the clinician, as opposed to the experimental psychologist:

> *"Clinicians can seldom deal with sugh highly structured, unambiguous (experimentally controlled) situations...In short, clinicians may be asked to consider the effects of many situations, not just one. The lack of information regarding the nature of specific situations may force us to rely more heavily than we would like on general personality factors."* (Phares, 1976, P.47)

As well, "we must bear in mind that even with its defects, the I-E scale has demonstrated its utility over a wide range of predictive situations. So much research has been carried out with the scale that it is very much a known quantity as compared to more recent versions." (Phares, 1976, P.58).

Major Research Relating Locus of Control, Hypnotic Susceptibility, and Weight Loss:

The amount of research relating locus of control, hypnotic susceptibility, and weight loss or obesity is meager and contradictory.

Weight Loss, Obesity, and Locus of Control

Some authors have found weight-loss to be related to locus of control, with internals losing more weight [(Balch and Ross, 1975) (Cohen and Alpert, 1978)]. Other experimenters have found no such relationship and shown weight-loss and locus of control to be uncorrelated (Gormally, Rardin, and Black, 1980).

Cohen and Alpert suggest that the reason internals lose more weight with a non-behavioral hypnosis therapy such as theirs is because externals would require a more behavioral approach focusing on the cues that signal eating behavior.

Behavioral programs are generally considered to be more directive. The question is: can hypnotherapy be considered non-directive and unstructured, compared to behavior therapy? Or is it the difference that hypnotherapy does not usually focus on antecedent stimuli and subsequent reinforcement, that is important?

However, one study suggests that internals will improve regardless of therapy type, while externals require a directive approach to improve.

This would explain why, in a directive program (such as Gormally et al, 1980) there would be no correlation between weight loss and locus of control. In such a program externals would improve, and internals always improve anyway, so there would be no difference.

This line of reasoning is toppled by other findings in behavioral programs where internals indeed lose more (Balch and Ross, 1975). Indeed, the findings on obese people's locus of control are also contradictory. MacArthur and Burstein (1975) found obese people to be more external than normals, while Gormanous and Lowe (1975) found no relationship between obesity and locus of control.

Hypnotic Susceptibility and Obesity

In the single study in this area, Thorne, Rasmus, and Fisher (1976) found overweight female students to be higher in hypnotic susceptibility than the normal population.

Locus of Control and Hypnotic Susceptibility

Austrin and Pereira (1978) found external female subjects to be higher in hypnotic susceptibility than internal females. (Such a relationship was not found for men, likely due to defensive externality where internal subjects, usually male, verbalize external views as a defense against failure and their responsibility for it.) However, Cohen and Alpert (1978) found no relationship between locus of control and hypnotic susceptibility for obese, female subjects.

Locus of Control, Hypnotic Susceptibility, and Weight Loss

In the one study found comparing all three variables, Cohen and Alpert (1978) found, as mentioned, no relationship between hypnotic susceptibility and weight loss, and that, using a loosely structured hypnotherapy approach, internal subjects lost most weight. There was no correlation between hypnotic susceptibility and weight loss.

In summary then, it appears that the relationship between locus of control, hypnotic susceptibility, and weight loss and obesity is meager and contradictory. It requires further careful examination and confirmation.

Conclusion to Chapter II

Based on the preceding literature, the treatments of obesity compared were a cognitive behavioral package (Mahoney and Mahoney, 1976) and a hypnosis package (combined from Hartland (1971); Stanton (1975) and Aja (1977), as well as use of a waiting control group. Obesity was determined by use of weight for height tables, informal observation, and a scale. Hypnotic susceptibility was measured via the Harvard Group Scale of Hypnotic Susceptibility, Form A (Shor and Orne, 1962). The Rotter I-E scale (Rotter, 1966) was used to measure locus of control. These and other important aspects of the design and procedure of this study are elaborated on in Chapter III.

CHAPTER III

DESIGN AND PROCEDURES

The Sample

Subjects were obtained by advertising for women, between the ages of 18 and 45 years of age, at least 20 pounds overweight, to take part in a research weight loss program. Subjects met at an introductory meeting where the programs were explained to them, and where they filled out a general information form and informed consent was obtained (See Appendix B). The information on the form served as the basis for selecting subjects. Those who had no medical problems that would be affected by dieting, and who were at least 20 pounds overweight (based on medium frame, lowest desirable weight, from Metropolitan Life Insurance Company Tables, 1959) were retained (See Appendix A). Only adults were used since some evidence suggests adolescents do not always respond well to hypnotherapy (Haber, Nitkin, and Shenker, 1977). Females only were used since sex differences in locus of control may confound the results (Lefcourt, 1976; Austrin and Pereira, 1978). The twenty pounds overweight criterion was used because of the necessity of attracting a large enough sample. To narrow it down to the truly obese (30-40% overweight) would have resulted in a very small sample. As well, such a range of subjects from 20 pounds overweight to very obese subjects is typical of most obesity studies and allows this study's results to be compared to those of other studies.

Subjects were also measured on hypnotic susceptibility and locus of control at this time by the administration of the Internal-

External Locus of Control Scale (I-E Scale) (Rotter, 1966) and the Harvard Group Scale of Hypnotic Susceptibility Form A (HGSHA) (Shor and Orne, 1964).

Thus locus of control and hypnotic susceptibility data were collected from 47 subjects. Of these, 34 selected subjects chose to join the weight-loss programs. At the end of each program there were 14 in the Cognitive-Behavioral group, eight in the Waiting-Control group, and nine in the Hypnosis group, making 31 subjects who completed the program.

Apparatus

The Internal-External Locus of Control Scale (I-E Scale)

This is a 29 item, forced choice test that measures subjects' general expectancy of where the locus of control of reinforcement in his life can be found. It includes six filler items to make the purpose of the test more ambiguous. Points are scored for external locus of control responses, so that the higher the score, the more external the locus of control (Rotter, 1966). (See Appendix C).

Item analysis and factor analytic data show reasonably high internal consistency for an additive scale (Rotter, 1966, r=.73). Correlations of r=.72 (Rotter, 1966) and r=.78 (Jessor, 1964) shows a satisfactory test-retest reliability.

The I-E scale has low relationships with such variables as intelligence (Ladwig, 1963, r=.01), social desirability (Ware, 1964), and political liberalness (Johnson, 1961), thus indicating discriminant validity. Construct validity is best indicated by a series of studies showing predictive differences in behavior for subjects above or below the median score of the scale (Rotter, 1966).

The Harvard Group Scale of Hypnotic Susceptibility: Form A (HGSHS:A)

This is one of many Hypnotic Susceptibility scales, but with the singular advantage of being administerable to and scoreable by large groups of subjects. Based on the Stanford Hypnotic Susceptibility Scale, Form A, the group scale also has ease of administration, and no need for special equipment.

The Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A) consists of one waking suggestion, eye closure induction, and ten other suggestions, including hand lowering, arm immobilization, arm rigidity, hands moving together, communication inhibition, hallucination, eye catalepsy, post hypnotic suggestion, and amnesia. Subjects score themselves by indicating in a test booklet whether or not an objective observer would have perceived them as following the suggestions. The higher the score, the greater the number of suggestions passed, and the higher the susceptibility (Shor and Orne, 1962). In comparing simultaneous self report and scoring by raters, a correlation of r=.82 was found, with self report averaging slightly higher in susceptibility. Self rating of susceptibility appears as reliable and valid as observer rating (Shor and Orne, 1963).

There is a very high correspondence between the HGSHS:A and the Stanford Hypnotic Susceptibility Scale: Form A, as shown in several studies (Hilgard, 1965), as well as with other hypnotic susceptibility scales (Hilgard, 1965), indicating good validity. It is reliable, showing good test-retest reliability (Shor and Orne, 1964), and internal consistency (Hilgard, 1965).

Equipment

A "Health-o-meter" upright, sliding medical scale, model #408 DRC, manufactured by the Continental Scale Corporation, was used to measure subjects' weight.

Procedure

As previously mentioned, subjects were administered the I-E scale and the HGSHS:A at an introductory meeting prior to selection and assignation to treatment groups. This meeting took place at the Education Clinical Services at the University of Alberta. All scales and subsequent treatments were given by the experimenter, using standardized procedures.

Subjects were assigned to one of the three treatment groups on the basis of their percent of overweight, such that there would be the same distribution of mild, moderate, and extreme overweight subjects in each group. Each group met once a week for one and a half hours per week. The two treatment groups met for seven weeks, since there was one holiday (Week 6) in which no sessions were held. The delay-of-treatment group met for six weeks. The first half hour of each session for each group consisted of individually weighing each subject, discussing their homework assignment, and of giving them the appropriate monetary reinforcement. Each subject gave the experimenter $20.00, and got $2.00 back each week ($1.00 for homework, $1.00 for losing one pound) for six weeks, and got $4.00 back if they maintained or lost weight over the eight week follow-up period. Remaining money went to photocopying costs for handouts from Mahoney and Mahoney (1976), calorie and exercise charts, and summaries of self hypnosis techniques modified from Lazarus (1971). (See Appendix D).

As well, each group received a lecture on nutrition and sound weight-loss from a nutritionist, during the second week of each program. A safe, realizable over the long term, rate of one-two pounds lost per week was greatly encouraged.

The three treatment groups were as follows:

1. Hypnosis: Seven weeks of treatment with: ego-enhancing suggestions (Hartland, 1971); subjects imagining themselves thinner; imagining themselves as wanting to eat less fattening food and appropriate amounts of nutritionally sound diets, and seeing themselves do this (Stanton, 1975); standard "body protection" instructions (Aja, 1977). Subjects learned and practised self-hypnosis. (See Appendix D).

2. Cognitive-Behavioral: Subjects received seven weeks of a cognitive-behavioral approach, such that each session used Mahoney and Mahoney's "Personal Science Approach" (1976). (See Appendix D for treatment lesson plans and outlines). Mahoney and Mahoney's approach teaches clients to modify their own behavior and

cognitions. Treatment covered such topics as monitoring, cognitive patterns, external controls, exercise, problem solving, support of significant others, and modifying diets. Subjects do this by setting goals, collecting information on themselves, and evaluating their interventions.

3. Waiting-Control: Subjects in Group Three served as the control for the passage of time by receiving no treatment for four weeks, and then their initial weight was compared with their weight after this waiting period. Following this, they received the cognitive-behavioral treatment. Since there appeared to be no difference in weight-loss between Hypnosis and Cognitive-Behavioral groups at the time the Waiting Control group started, the waiting control was given the cognitive-behavioral treatment since fewer people (none in fact) had dropped out of that group, and it was informally assessed as being more interesting.

A follow-up weigh-in and meeting occurred for each group after eight weeks from treatment termination.

Hypotheses:

1. There is no significant difference between the mean weight change of the Waiting-Control group after the four week waiting period, and the mean weight change of the other two groups who were then in the fourth week of the weight loss programs.

2. There is no significant difference in overall mean percentage weight loss among Hypnosis, Cognitive-Behavioral and Waiting Control groups.

3. There is no difference in weekly weight loss among the three groups.

4. There is no significantly different weight loss between Internal and External locus of control subjects in any of the three groups.

5. There is no significantly different weight loss between High and Low susceptible subjects in any of the three groups.

6. There is no relationship between weight-loss and locus of control, or hypnotic susceptibility.

7. There is no correlation between obesity and locus of control or hypnotic susceptibility.

8. There is no correlation between locus of control and hypnotic susceptibility with this sample.

Limitations and Delimitations of the Study:

One of the delimitations on finding significant differences between treatment of weight loss in this study is the small sample size. True existing significance may not emerge because individual differences in a small sample may override treatment effects. For a good power of .80 and given a medium effect size, an n of 63 subjects per group is required (Welkowitz, Ewen, and Cohen, 1971). However, this was not used, first of all because 315 subjects did not volunteer, and secondly groups of a size greater than 10-15 would have been hard to handle clinically.

Selectivity of the sample may also be a drawback. Since volunteers were advertised for via the university newspaper and bulletin boards, the sample may be younger and more intelligent than the general population.

Comparisons to normal groups were done via norm scores due to the lack of time on the experimenter's part in testing a "normal" population.

As well, though long term follow-ups (six months at least) will be done to see if subjects maintained weight loss, time restraints made it impossible that they be reported in this study. The only one being reported occurs eight weeks after termination of the programs.

Also, all aspects of the study were done by the experimenter who was not blind to the experimental hypotheses.

Analysis of Data:

Correlations of locus of control and hypnotic susceptibility to each other, and to weight loss, and to initial percentage of overweight, were done using the Pearson Product Moment Correlation, on the total sample.

T-tests were used to determine whether this sample differed from the general population on locus of control and hypnotic susceptibility. Norm scores from the tests standardizing samples, as reported by

Rotter (1966) and Shor and Orne (1962) were used to represent a normal population. As well, T-tests were used to determine if the mean weight change from Week 1 to Week 4 of the Cognitive-Behavioral and Hypnosis groups differed from the mean weight change of the Waiting Control group over this waiting period.

Analysis of Variance was used to determine, before the study was run, if the Hypnosis, Cognitive-Behavioral, and Waiting Control groups differed significantly from each other in percentage overweight, locus of control, and hypnotic susceptibility.

Analysis of Variance for Repeated Measures was used to determine if there were any significant differences between mean weight change over time, between Hypnosis, Cognitive-Behavioral, and Waiting Control groups; as well as between internal and external locus of control and between high and low hypnotically susceptible subjects, both overall, and within each weight-loss treatment group.

A .05 level of significance was used for all statistical analyses.

Figures were used to indicate weight loss trends graphically.

CHAPTER IV

RESULTS

The results are reported in the following manner: the hypotheses have been restated, followed by the pertinent statistics and figures, and the appropriate conclusions. The level of significance adopted to test the seven hypotheses was $p < .05$. Scores of individual subjects on all measures can be found in Appendix E.

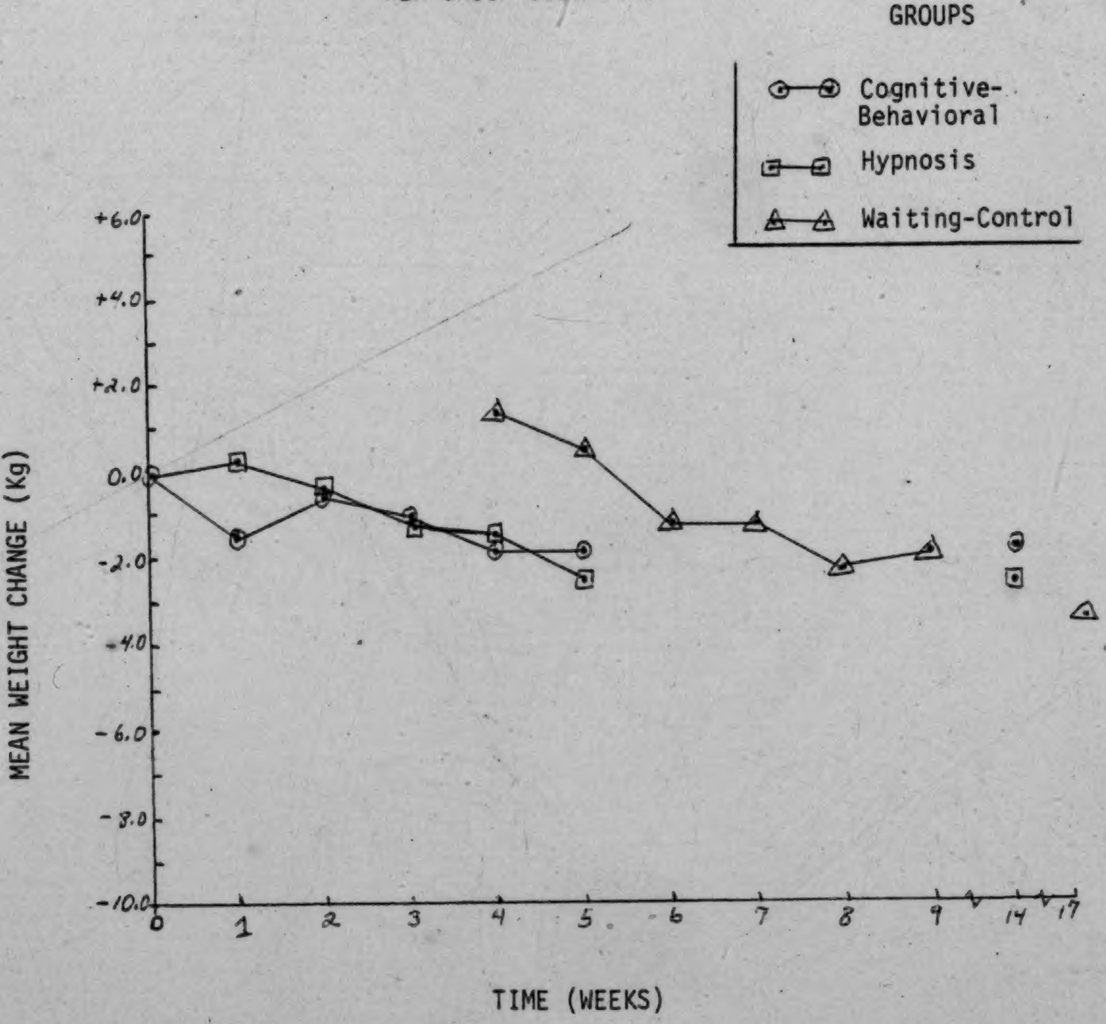
Hypothesis 1: There is no significant difference between the mean weight change of the Waiting-Control group, after the four week waiting period, and that of the other two groups, who were then in the 4th week of their weight loss programs.

T-tests for independent means were performed. Reported weights were used in the calculation of weight change scores as no significant difference was found between reported and measured weights at the start of treatment. A significant difference was found between the mean weight changes of the Waiting-Control group and of both the Cognitive-Behavioral ($t(21)=2.36$, $p < .05$) and the Hypnosis ($t(16)=3.27$, $p < .05$) groups. The mean weight of the Waiting-Control group had increased over the four week waiting period. The mean weights of the other two groups had decreased over the same four weeks while those subjects had been receiving weight-loss programs. This can be clearly seen in Figure 1.

FIGURE 1

MEAN WEIGHT CHANGE

PER GROUP OVER TIME



Conclusion: The significant difference in mean weight change between the Waiting-Control group and the other two groups suggests that the weight loss of the other two groups was not due to the passage of time. Otherwise, a similar weight loss would have occurred with the Waiting-Control group. The null hypothesis was rejected.

Hypothesis 2: There is no significant difference in overall mean weight loss between the Cognitive-Behavioral, Hypnosis and Waiting-Control groups.

Analysis of variance for repeated measures was done and the results are reported in Table 1.

The values obtained for the weight loss program variable and for the program/time interaction effect were not significant at the .05 level. The *F*-ratio obtained for the repeated measure variable of time indicated a significant difference over time for all treatment groups. Analysis of variance for repeated measures was done with the first weight change measurement at the start of each program and the last weight change measurement at the end of the program (at the eight-week follow-up), to determine if the total weight loss over each program was significant, and to see if the groups' total weight loss differed significantly from each other. The findings are given in Table 2 and support the results of Table 1.

TABLE 1

Analysis of Variance for Repeated Measures of Weight Loss

Between Weight-Loss Programs:

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	_F_-ratio
Weight Loss Program	3.629	2	1.815	0.127
Within Groups	427.824	30	14.261	
Total Between Subjects	431.469	32		
Time (Repeated Measure)	156.391	6	26.065	9.554*
Program/Time Interaction	22.234	12	1.853	0.679
Time X Subject Within Groups	491.070	180	2.728	
Total	682.734	198		

Note a) _F_ Critical (2,30)= 3.32, $p < .05$
_F_ Critical (6,180)= 2.14, $p < .05$
_F_ Critical (12,180)= 1.80, $p < .05$
b) * Significant at .05 level

TABLE 2

Analysis of Variance for Repeated Measures of Weight Loss Between Weight Loss Programs: Time 1 and Time 7 Only

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F-ratio
Weight Loss Program	1.418	2	0.709	0.097
Within Groups	225.432	31	7.272	
Total Between Subjects	226.910	33		
Time (Repeated Measure)	114.656	1	114.656	13.252*
Program/Time Interaction	0.637	2	0.318	0.037
Time X Subject Within Groups	268.222	3	8.652	
Total	385.450	34		

Note a) F Critical (2,31)= 2.91, $p < .05$

F Critical (1,31)= 4.16, $p < .05$

F Critical (2,3) = 9.28, $p < .05$

b) * Significant at .05 level

Again, there were no significantly different values obtained for either the weight-loss program variable or the interaction effect.

Conclusion: The null hypothesis was retained. There was no significant difference in overall mean weight loss among the three groups.

Hypothesis 3: There is no significant difference in weekly weight loss among the three groups.

Analysis of variance for repeated measures was done and the results are reported in Table 1.

As seen, when examining Hypothesis 2, the results of Table 1 indicate no significant values were obtained for either the weight loss program variable or for the program/time interaction effect. Only the F-ratio for the repeated variable of time was significant at the .05 level.

Thus, it can be said that while subjects in each weight-loss program group lost a significant amount of weight throughout, and over the whole program, subjects in no one program group lost significantly more weight, at any time over the experiment, than any other group's subjects.

These results are clearly illustrated in Figure 1. The downward slope of the line for each group indicates increasing weight loss. No group differs greatly from each other in the amount of slope, indicating approximately equal weight loss. It is interesting to note that the pattern of weight loss for the Hypnosis group is more steady, less fluctuating than that of either of the other two groups, which both received a cognitive-behavioral program of treatment.

Conclusion: Based on the preceding results, the null hypothesis was rejected. There was no significant difference in weekly weight loss among the three groups.

Hypothesis 4: There is no significantly different weight loss between internal and external locus of control subjects in any of the three groups.

An analysis of variance for repeated measures was done for each group and the results are reported in Table 3.

TABLE 3

Analysis of Variance for Repeated Measures of Weight Loss Between Internal and External Locus of Control: By Group

Group	Variable/Effect	F-ratio
Cognitive-Behavioral	Locus of Control	F (1,13) = 0.178
	Time	F (6,78) = 5.654*
	Interaction	F (6,78) = 0.384
Hypnosis	Locus of Control	F (1,8) = 0.125
	Time	F (6,48) = 3.269*
	Interaction	F (6,48) = 1.867
Waiting-Control	Locus of Control	F (1,7) = 1.240
	Time	F (6,42) = 4.537*
	Interaction	F (6,42) = 2.433*

Note: * Significant at .05 level

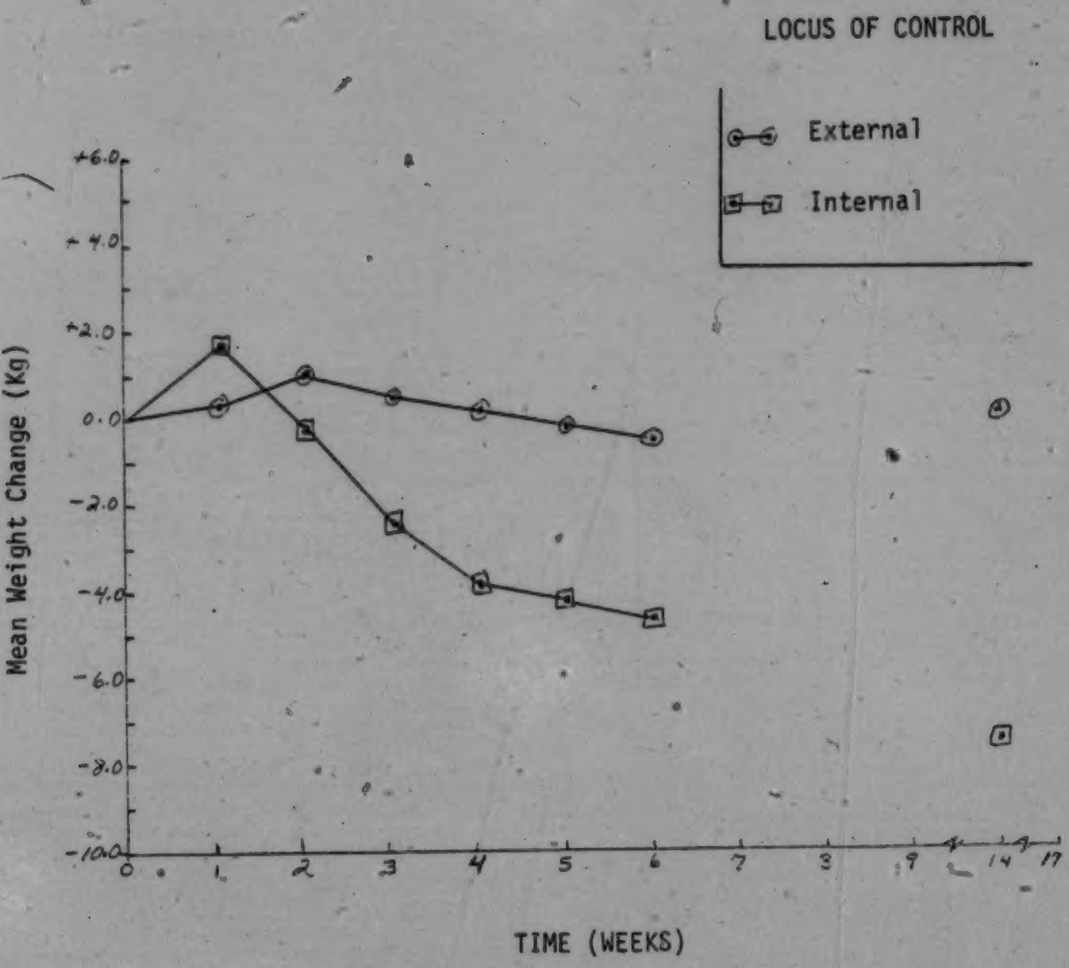
For all three groups, the values obtained for the locus of control variable were not significant at the .05 level. The F-ratio obtained for the repeated measure variable of time indicated a significant difference over time for both internal and external locus of control subjects, for all weight loss programs. Only one group showed a significant time by locus of control interaction effect, and that was the Waiting-Control group. As can be seen in Figure 2, the Internal locus of control subjects lost a large amount of weight (relative to the Externals) in Weeks 1-4, and again from Week 6 to Week 14, over the eight week follow-up period. During Weeks 4-6, the Internals' weight loss rate appeared equivalent to that of the External subjects. In part, this difference may be due to the weight loss patterns of one extremely determined Internal subject. The patterns of rapid weight loss for the Internals follow her patterns of rapid weight loss. The small n of this group would make the mean easily affected by extreme scores.

FIGURE 2

WAITING-CONTROL GROUP

MEAN WEIGHT CHANGE OVER TIME

BY LOCUS OF CONTROL



This suggestion (that the difference is not likely due to treatment effects) is supported by the data presented in Figure 3. If the interaction effect in the Waiting-Control group was due to the type of weight loss program, a similar pattern would be expected with the Cognitive-Behavioral group. This is because the Cognitive-Behavioral group received the same weight-loss program as the Waiting-Control group. As can be seen in Figure 3, both Internal and External subjects lost very similar amounts of weight at the same times.

Similar results were found with the Hypnosis group, as shown in Figure 4. There appears to be a noticeable difference between Internals and Externals in weight change at Week 1, but this is not significant.

It is interesting to note, from viewing Figures 2, 3 and 4, that though there is no significant overall difference in weight loss between Internals and Externals, some trends seem apparent. Internals appeared to have lost more weight than Externals in the two groups receiving the cognitive-behavioral program, and Externals appear to have lost more with the hypnosis program.

Conclusion: In this study, though both Internal and External locus of control subjects lost a significant amount of weight over the program, neither lost significantly more weight than the other, regardless of weight-loss program group. There was a significant time by locus interaction effect for the Waiting-Control group, such that Internal subjects at times lost significantly more weight than Externals. Thus, the null hypothesis is rejected.

FIGURE 3

COGNITIVE-BEHAVIORAL GROUP

MEAN WEIGHT CHANGE OVER TIME

BY LOCUS OF CONTROL

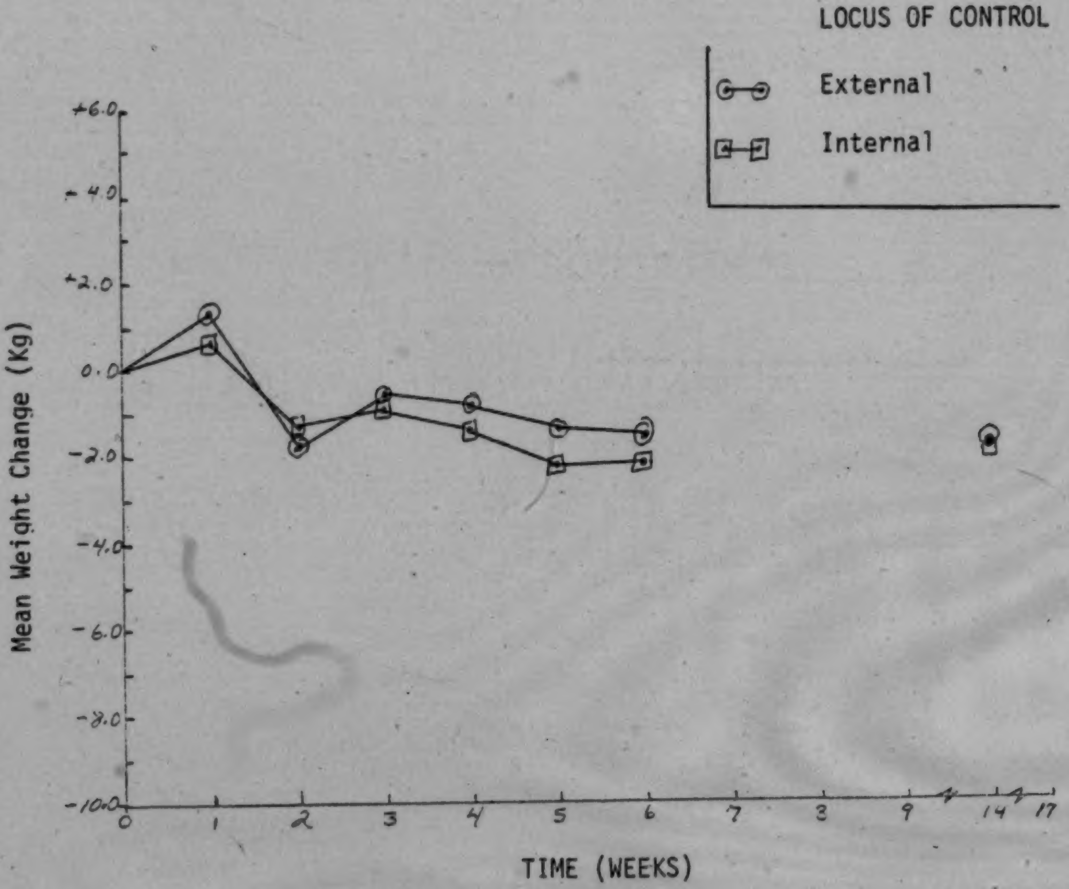
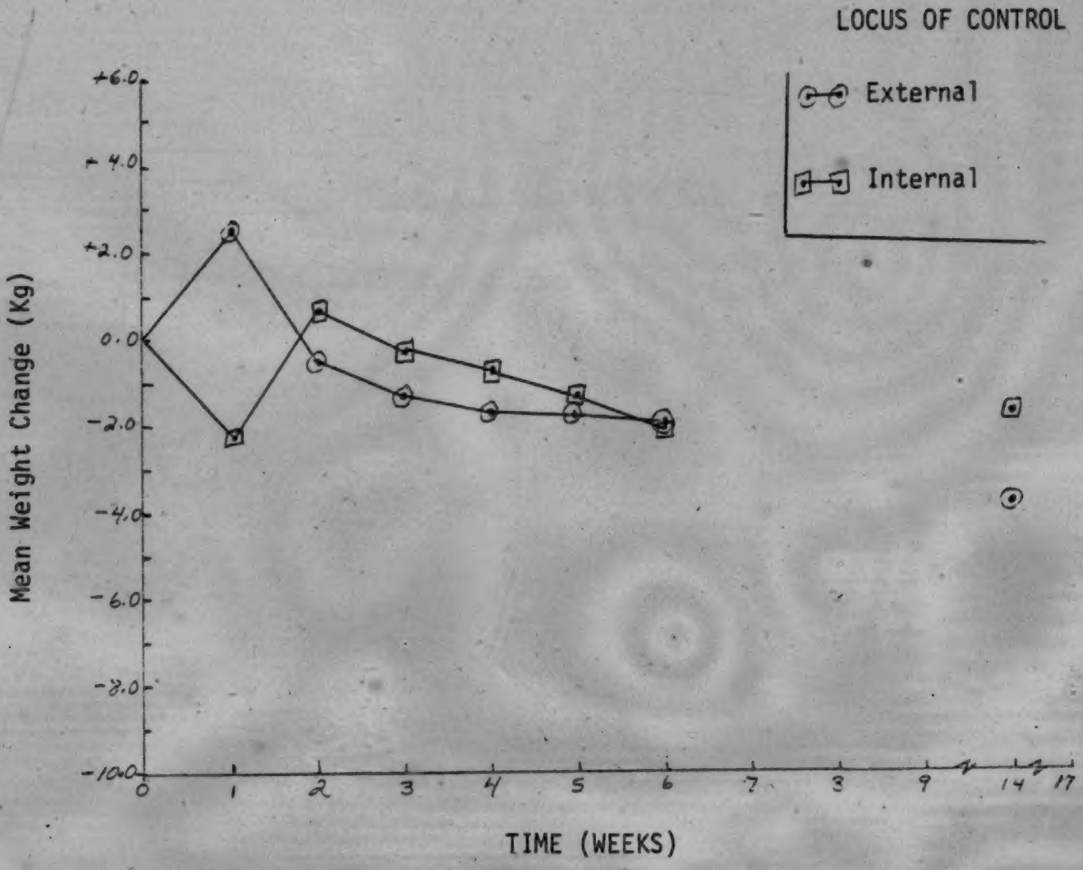


FIGURE 4

HYPNOSIS GROUP
MEAN WEIGHT CHANGE OVER TIME
BY LOCUS OF CONTROL



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Conclusion: In this study, though both Internal and External locus of control subjects lost a significant amount of weight over the program, neither lost significantly more weight than the other, regardless of weight-loss program group. There was a significant time by locus interaction effect for the Waiting-Control group, such that Internal subjects at times lost significantly more weight than Externals. Thus, the null hypothesis is rejected.

Hypothesis 5: There is no significantly different weight loss between High and Low hypnotically susceptible subjects in any of the three groups.

The results from an analysis of variance for repeated measures was done for each group and the results are reported in Table 4.

TABLE 4

Analysis of Variance for Repeated Measures of Weight Loss Between High and Low Hypnotic Susceptibility: By Group

Group	Variable/Effect	F-Ratio
Cognitive-Behavioral	Hypnotic Susceptibility	F (1,13) = 0.170
	Time	F (6,78) = 5.808*
	Interaction	F (6,78) = 0.644
Hypnosis	Hypnotic Susceptibility	F (1,8) = 0.021
	Time	F (6,48) = 2.773*
	Interaction	F (6,48) = 0.370
Waiting-Control	Hypnotic Susceptibility	F (1,7) = 1.100
	Time	F (6,42) = 3.996*
	Interaction	F (6,42) = 0.213

Note: * Significant at .05 level

For all three groups, the obtained values for the Hypnotic Susceptibility variable and the interaction effect were not significant at the .05 level. The F-ratios obtained for the repeated measure variable of time indicated a significant difference over time for both High and Low susceptible subjects, for all weight-loss programs.

These results are supported, again by graphed data. As can be seen in Figures 5, 6 and 7, both High and Low Susceptible subjects lost weight over the course of the program. In Figure 5 we again see a discrepancy in amount of weight lost between High and Low susceptible subjects. It is a similar situation to that encountered with the results for Hypothesis 4, only this time the difference is not significant. Figures 6 and 7 show little difference between High and Low susceptible subjects' rate of weight loss. From the figures, it appears that Low susceptible subjects may have lost more weight than High subjects in the Waiting-Control and Hypnosis groups. The Highs may have lost more in the Cognitive group. (These findings are not significant but merely suggested trends.)

Conclusion: Based on the results of this study, the null hypothesis is accepted. There was no significantly different weight loss between High and Low hypnotically susceptible subjects in any of the three groups.

FIGURE 5

WAITING-CONTROL GROUP

MEAN WEIGHT CHANGE OVER TIME

BY HYPNOTIC SUSCEPTIBILITY

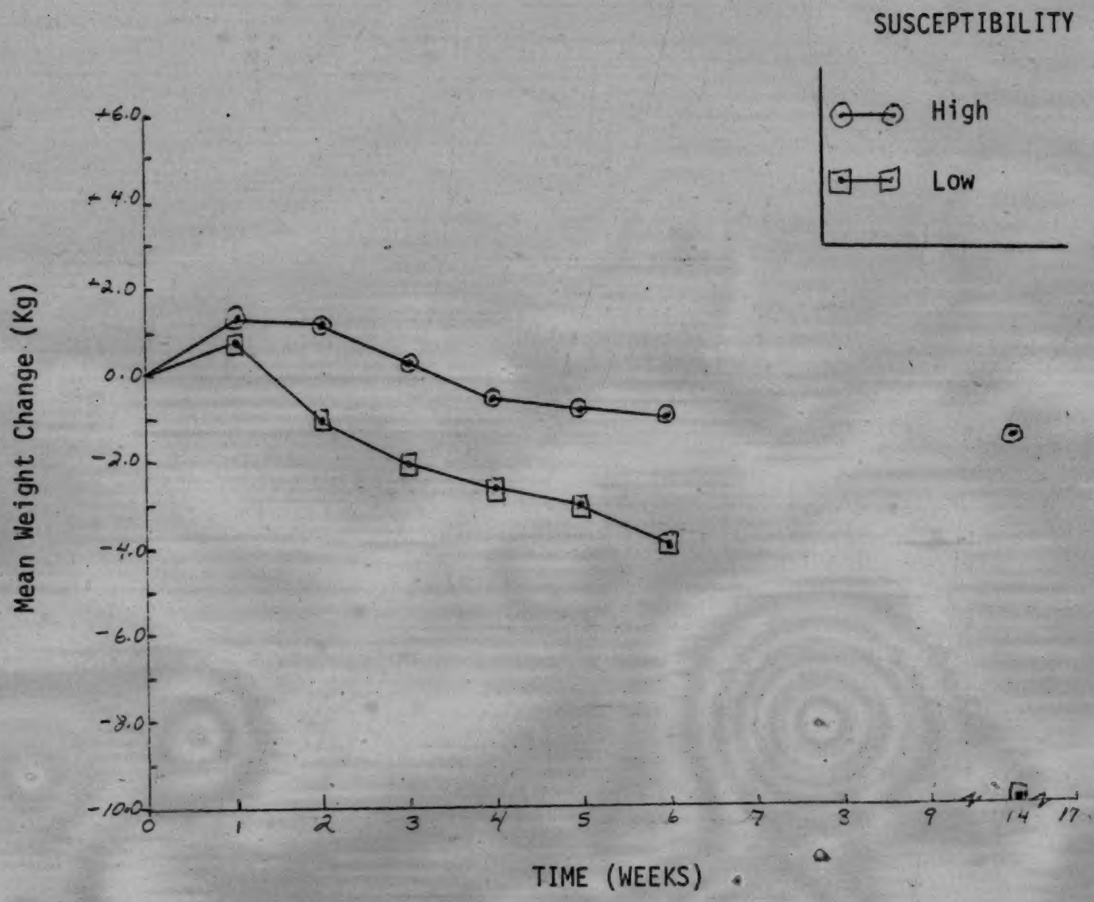


FIGURE 6

COGNITIVE-BEHAVIORAL GROUP

MEAN WEIGHT CHANGE OVER TIME

BY HYPNOTIC SUSCEPTIBILITY

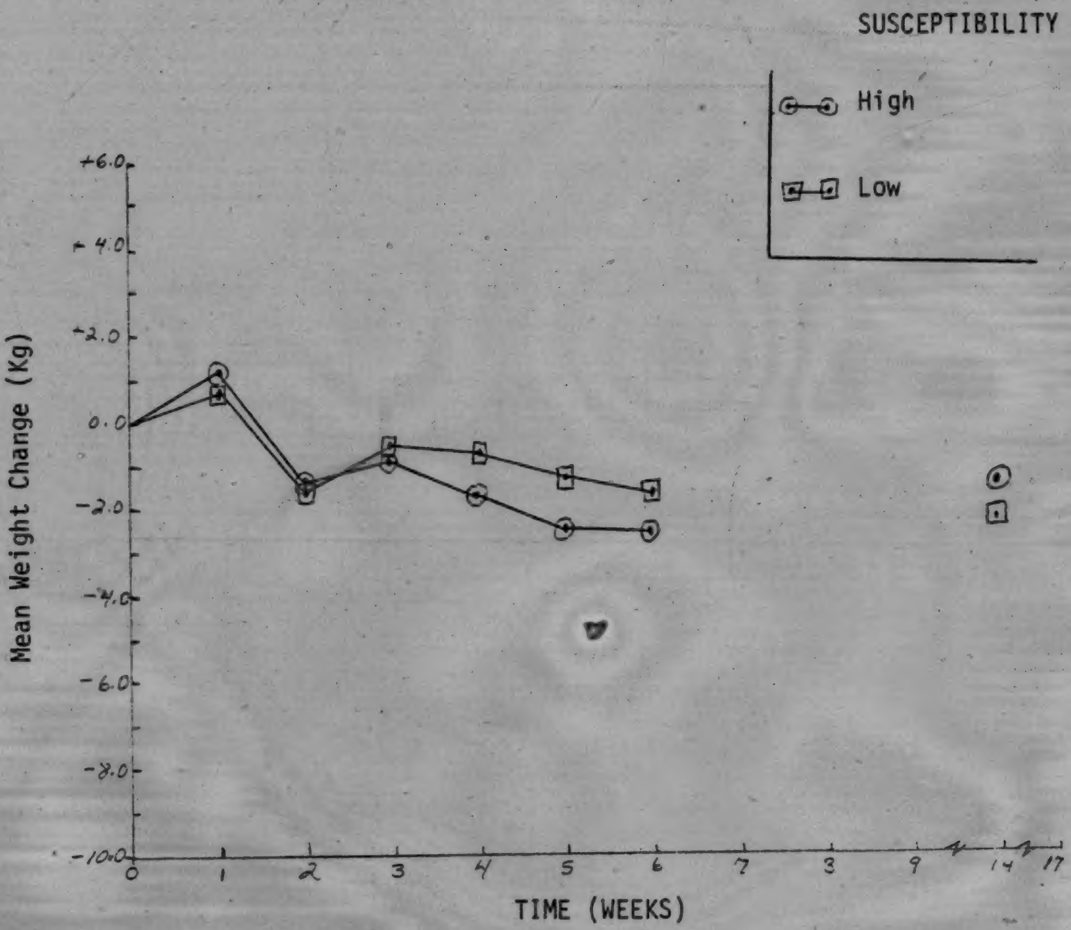
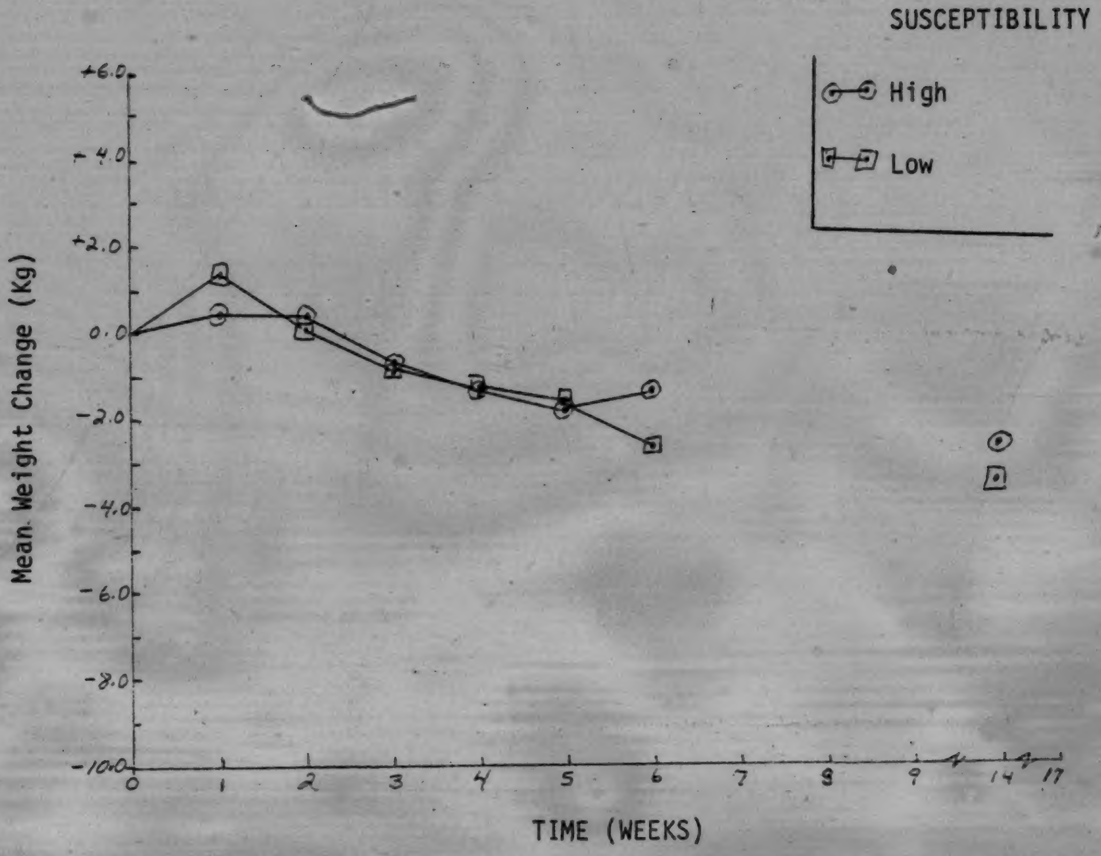


FIGURE 7

HYPNOSIS GROUP

MEAN WEIGHT CHANGE OVER TIME

BY HYPNOTIC SUSCEPTIBILITY



Hypothesis 6: There is no significant difference in mean weight change between Internal and External locus of control or between High and Low hypnotic susceptibility subjects over all conditions.

Analysis of variance for repeated measures over all groups was done for locus of control and hypnotic susceptibility. The results are reported in Table 5.

TABLE 5

Analysis of Variance for Repeated Measures of Weight Loss for Locus of Control and Hypnotic Susceptibility Over All Groups.

Personality Correlate	Variable/Effect	F-Ratio
Locus of Control	Internal/External	F (1,32) = 0.737
	Time	F (6,192) = 11.090*
	Interaction	F (6,192) = 0.490
Hypnotic Susceptibility	High/Low	F (1,32) = 0.278
	Time	F (6,192) = 11.083*
	Interaction	F (6,192) = 0.479

Note: * Significant at .05 level

The values obtained for both analyses of variance were similar. For both, the interaction effects and the values for the Internal/External and High/Low susceptibility variables were not significant at the .05 level. The F-ratios obtained for the repeated measure of time, for both analyses, indicates that all subjects (High and Low, Internal and External) lost weight.

These results are reflected in Figures 8 and 9. As can be seen in Figure 8, both Internals and Externals lost weight, of approximately the same amount, though Internals lost slightly more overall. Figure 9 shows a similar trend for High and Low hypnotically susceptible subjects. Both groups showed steady weight loss, with Low susceptible subjects losing slightly more than Highs.

Conclusion: Although all subjects lost a significant amount of weight over the course of treatment, there was no significant difference in mean weight change between Internal and External locus of control subjects, or between High and Low hypnotically susceptible subjects, over all conditions. The null hypothesis was retained.

FIGURE 8

LOCUS OF CONTROL

MEAN WEIGHT CHANGE OVER TIME

OVER ALL GROUPS

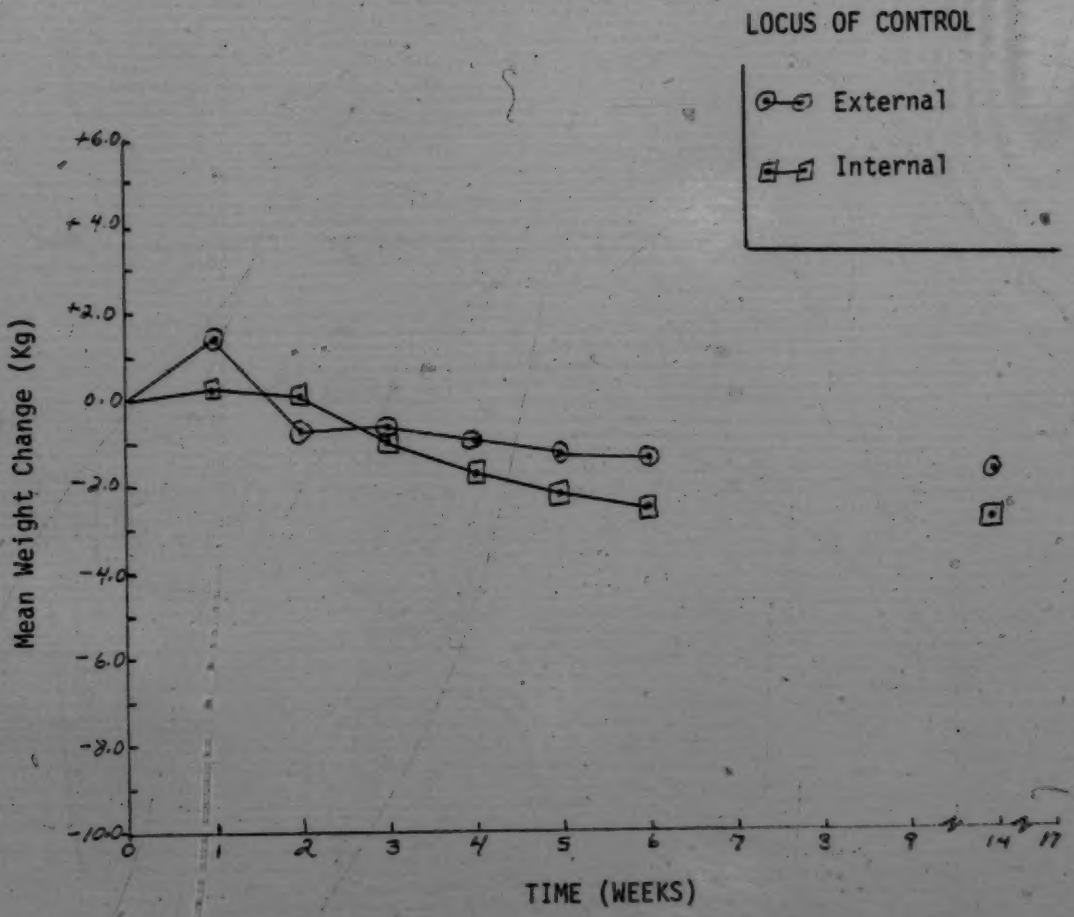
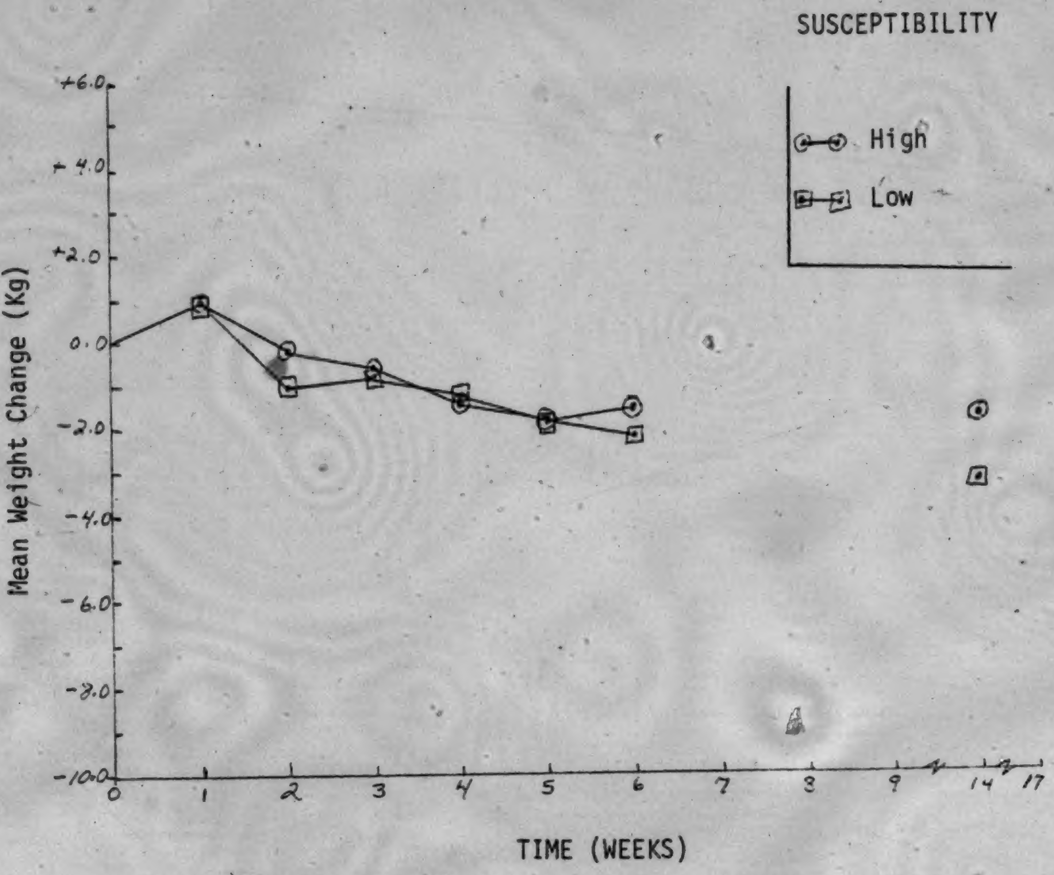


FIGURE 9

HYPNOTIC SUSCEPTIBILITY

MEAN WEIGHT CHANGE OVER TIME

OVER ALL GROUPS



Hypothesis 7: There is no correlation between obesity (percentage overweight) and locus of control or hypnotic susceptibility with this sample.

Pearsonian correlation coefficients were calculated between each subject's percentage overweight at the start of the study (obesity) and both locus of control and hypnotic susceptibility.

The obtained value for the correlation between obesity and hypnotic susceptibility was not significant at the .05 level. However, a significant negative correlation was obtained between obesity and locus of control ($r= -.36$, $p < .05$). This indicates that the more obese a subject was, the more internal (the lower her I-E score) her locus of control was likely to be.

Conclusion: In this study no significant relationship was found between obesity and hypnotic susceptibility. A significant negative relationship was found between obesity and locus of control. The null hypothesis was rejected.

Hypothesis 8: There is no significant correlation between locus of control and hypnotic susceptibility with this sample.

A Pearsonian correlation coefficient was calculated between I-E scores and HGSHS:A scores. The obtained value was not significant at the .05 level.

Conclusion: In this study, a significant relationship between locus of control and hypnotic susceptibility was not found. The null hypothesis was retained.

Post Hoc Findings

In a post hoc examination of the findings, the following post hoc hypotheses were explored.

Hypothesis 9: There is no significant difference in mean weight change between weight loss groups for External locus of control subjects and for Internal locus of control subjects.

Analyses of variance for repeated measures were done, and the results are reported in Table 6.

TABLE 6

Analysis of Variance for Repeated Measures of Weight Loss Between Weight Loss Programs By Locus of Control

Locus of Control	Variable/Effect	F-Ratio
Internal	Weight-Loss Program	F (2,13) = 1.029
	Time	F (6,78) = 5.546*
	Interaction	F (12,78) = 1.628
External	Weight-Loss Program	F (2,15) = 0.132
	Time	F (6,90) = 5.691*
	Interaction	F (12,90) = 1.336

Note: * Significant at .05 level

The values obtained for the weight loss program variable and the interaction effect were not significant at the .05 level, for both Internal and External subjects. The F-ratios obtained for the repeated measure of time indicated a significant difference over time for all groups, for both Internal and External subjects.

In other words, all Internal locus of control subjects lost significant amounts of weight but it made no difference which weight-loss group they were in. The case was the same for the External locus of control subjects.

These results are shown visually in Figures 10 and 11. In Figure 10, there once again appears to be a large difference in weight change between the Waiting-Control group and the other two groups. Again this rapid change rate for the group runs from Week 4 to Week 7, and occurs again over follow-up, paralelling the weight loss rates of one extreme subject.

The Cognitive-Behavioral and Hypnosis groups follow relatively similar patterns of weight loss, with the Cognitive-Behavioral Internals losing slightly more.

Figure 11 shows all groups of Externals losing weight at roughly the same rate, though both Cognitive-Behavioral and Hypnosis Externals appear to have lost somewhat more than the Waiting-Controls, following a sudden weight gain between weeks 0 and 1, and a sudden weight loss between weeks 1 and 2. The Hypnosis group Externals seem to be losing slightly more weight.

FIGURE 10

INTERNAL LOCUS SUBJECTS

MEAN WEIGHT CHANGE PER GROUP

OVER TIME

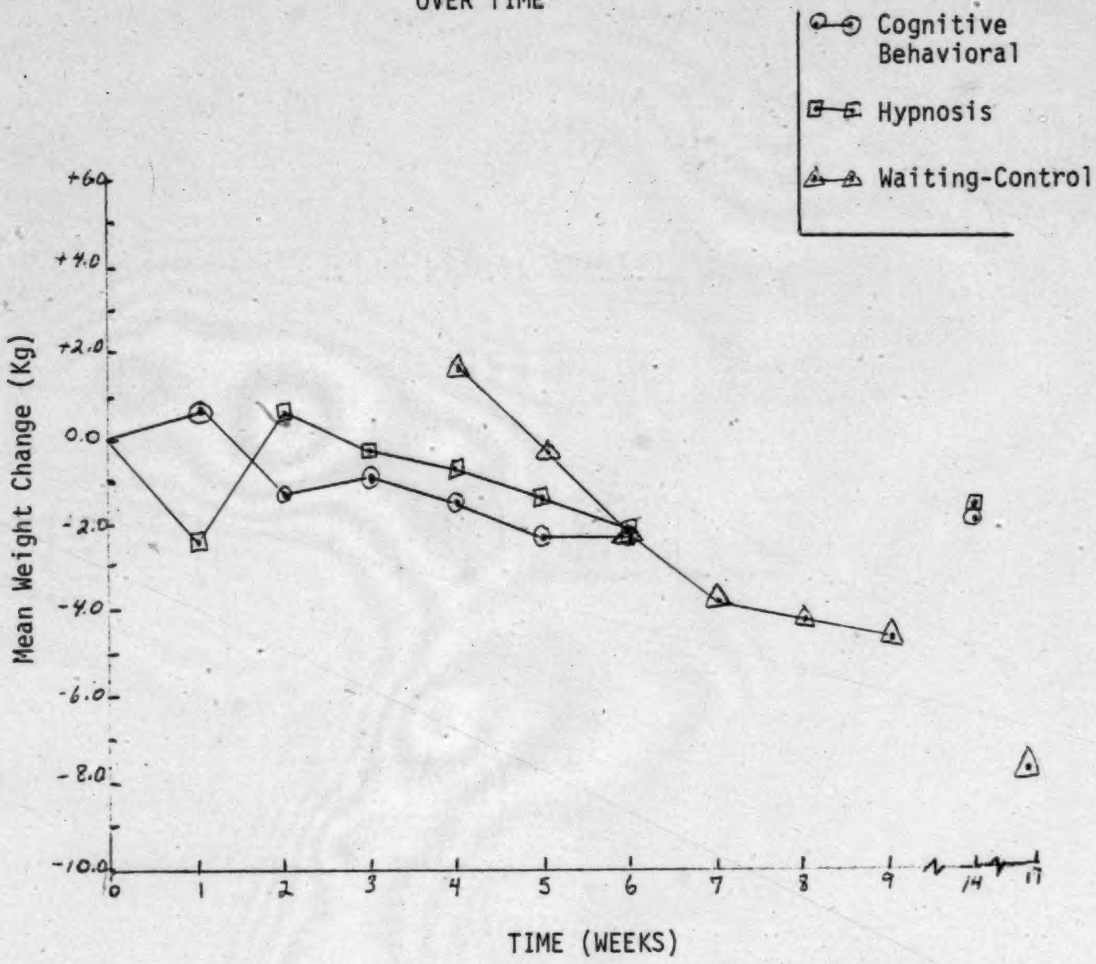
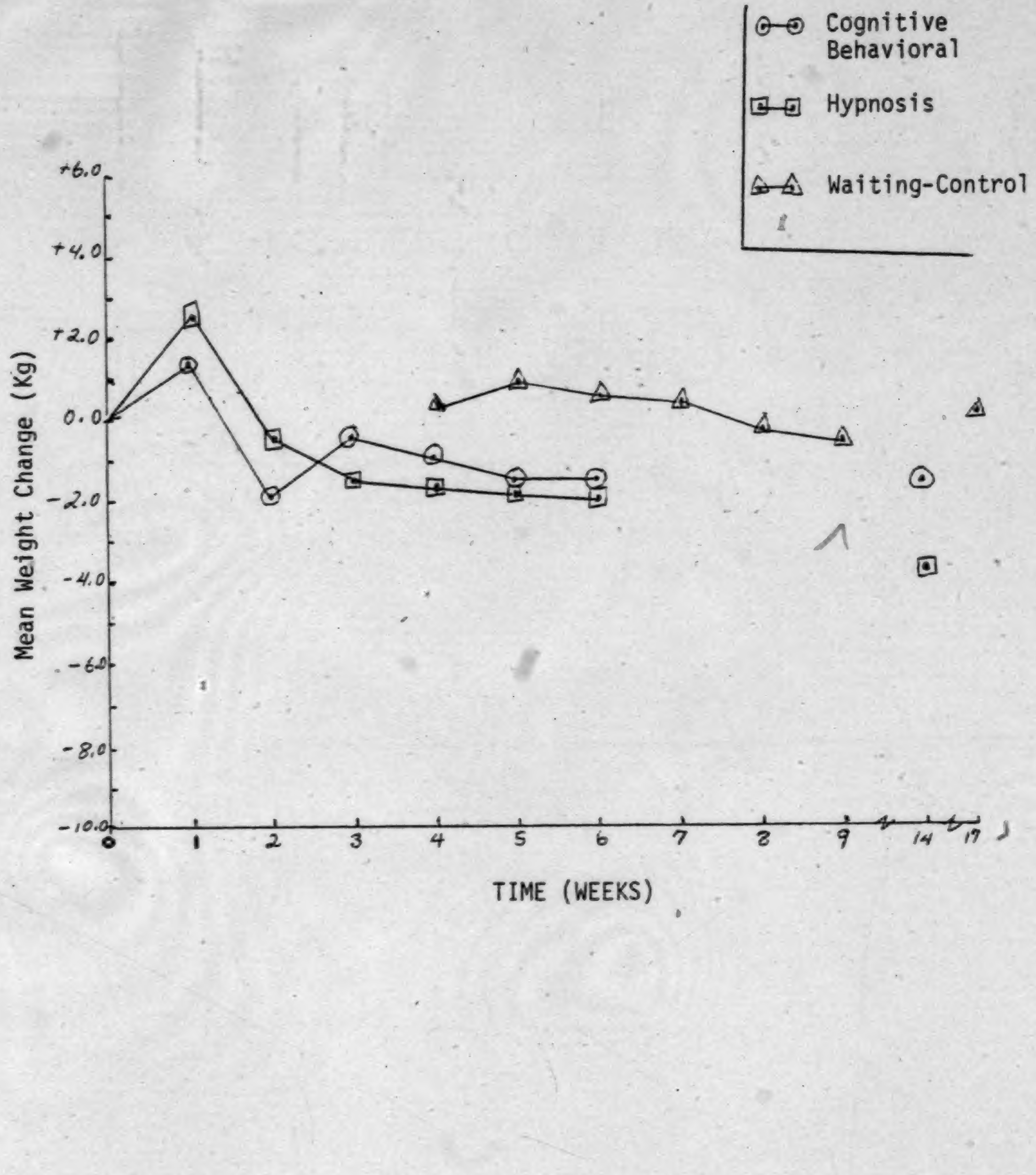


FIGURE 11

EXTERNAL LOCUS SUBJECTS

MEAN WEIGHT CHANGE PER GROUP

OVER TIME



Conclusion: The null hypothesis was retained. There was no significant difference in mean weight change between weight loss groups for External subjects and for Internal subjects.

Hypothesis 10: There is no significant difference in mean weight change between weight loss groups for High hypnotically susceptible subjects and for Low hypnotically susceptible subjects.

Analyses of variance for repeated measures were done and the results are reported in Table 7.

TABLE 7

Analysis of Variance for Repeated Measures of Weight Loss Between Weight Loss Programs by Hypnotic Susceptibility

Hypnotic Susceptibility	Variable/Effect	F-Ratio
High	Weight-Loss Program	F (2,14) = 1.434
	Time	F (6,84) = 7.403*
	Interaction	F (12,84) = 0.797
Low	Weight-Loss Program	F (2,14) = 0.076
	Time	F (6,84) = 4.279*
	Interaction	F (12,84) = 0.358

Note: * Significant at .05 level

The values obtained for the weight loss program variable and the interaction effect were not significant at the .05 level, for both High and Low susceptible subjects. The F-ratios obtained for the repeated measure of time indicated a significant difference over time for all groups, for both High and Low subjects.

That is, all High susceptible subjects lost significant amounts of weight, but it made no difference which weight loss group they were in. The case was the same for the Low susceptible subjects.

Figures 12 and 13 support these results. In Figure 12, subjects in all groups lost weight, with the Hypnosis and Cognitive-Behavioral High subjects losing somewhat more than the Waiting-Control High subjects. The Cognitive-Behavioral group subjects seemed to have lost the most weight, among High subjects.

In Figure 13, the Waiting-Control subjects again seemed to have lost more weight than the Cognitive-Behavioral or Hypnosis Low subjects. The pattern of loss of the Waiting-Control group again follows that of the deviant subject. The other two Low groups show relatively similar patterns, with the Hypnosis group losing slightly more weight.

Conclusion: No one weight loss program resulted in significantly more weight loss for either High or Low susceptible subjects. Thus the null hypothesis was retained.

FIGURE 12

HIGH SUSCEPTIBLE SUBJECTS

MEAN WEIGHT CHANGE PER GROUP

OVER TIME

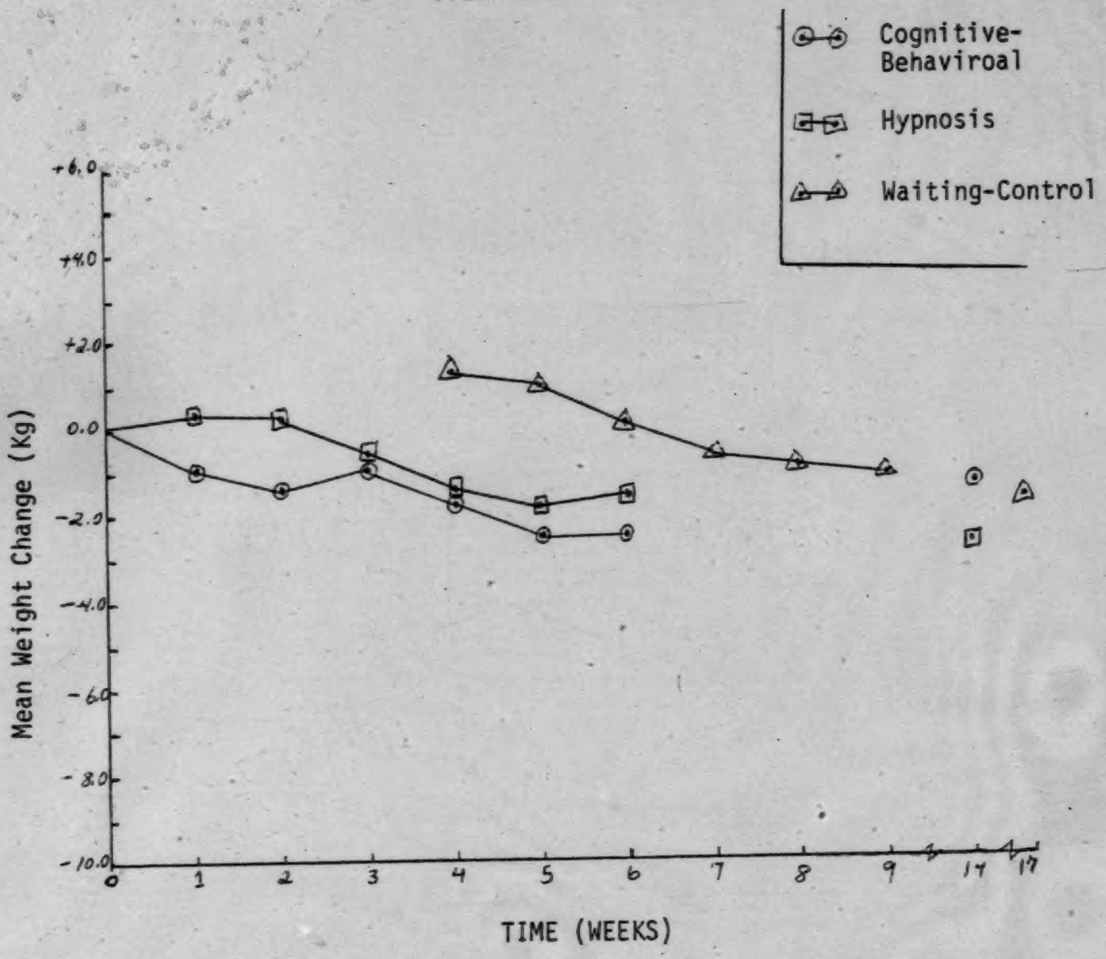
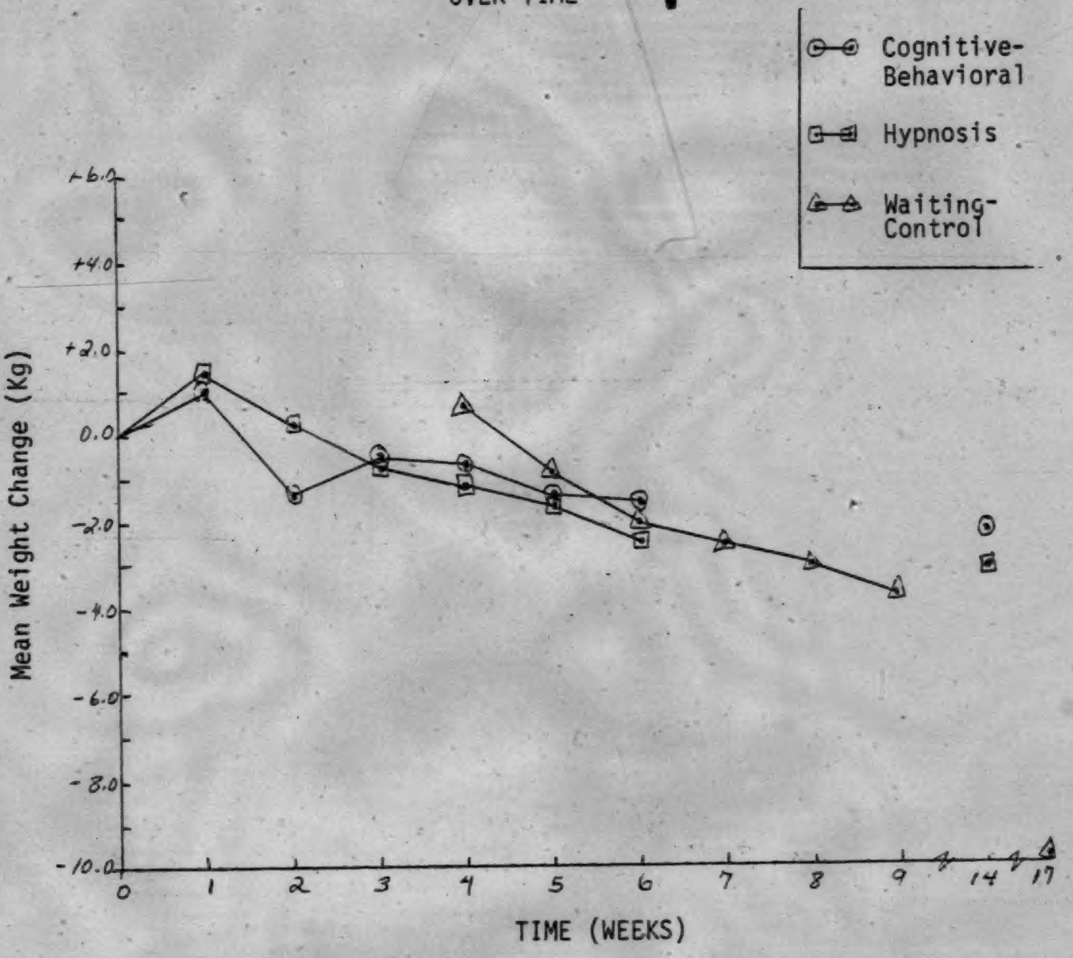


FIGURE 13

LOW SUSCEPTIBLE SUBJECTS

MEAN WEIGHT CHANGE PER GROUP

OVER TIME



Hypothesis 11: There is no significant difference in mean locus of control scores between any of the groups of subjects, including those who had dropped out of the study, and the subjects remaining in the study.

An analysis of variance was done comparing the mean I-E scores of the four groups: Drop-outs; Cognitive-Behavioral; Hypnosis; Waiting-Control. Results are reported in Table 8.

TABLE 8

Analysis of Variance of Locus of Control Scores Between Groups[a]

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F-Ratio
Between Groups	13.24	3	3.31	.76
Within Groups	183.41	42	4.37	
Total	196.65	45		

Note: a) "Groups" indicates the three weight loss groups and the drop-out group

The F-ratio obtained was not significant at the .05 level.

Conclusion: There was no significant difference in locus of control between the groups of subjects, including the group of subjects who dropped out of the study. The null hypothesis was retained.

Hypothesis 12: There is no significant difference in mean hypnotic susceptibility scores between any of the groups of subjects, including those who had dropped out of the study and those remaining in the study.

An analysis of variance was done comparing the mean HGSHS:A scores of the four groups: Drop-outs; Cognitive-Behavioral; Hypnosis; Waiting-Control. Results are reported in Table 9.

TABLE 9

Analysis of Variance of Hypnotic Susceptibility Scores between Groups[a]

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F-Ratio
Between Groups	50.11	3	16.70	9.076*
Within Groups	77.39	42	1.84	
Total	127.50	45		

Note: a) "Groups" indicates the three weight loss groups and the drop-out group.

* Significant at .05 level.

The F-ratio obtained was significant at the .05 level. T-tests were done to determine which groups were significantly different from each other. It was found that the Drop-out group subjects were significantly higher in hypnotic susceptibility than the Waiting-Control group subjects ($t(19) = 2.45$, $p < .05$). The Cognitive-Behavioral group subjects were also significantly more susceptible than the Waiting-Control group ($t(21) = 2.39$, $p < .05$). There was no significant difference between the Drop-out group subjects and the Cognitive-Behavioral group subjects, or between the Hypnosis group subjects and subjects in any of the three groups.

Conclusion: Subjects in both the Drop-out group and the Cognitive-Behavioral group were significantly higher in hypnotic susceptibility than the subjects in the Waiting-Control group. The null hypothesis was rejected.

Hypothesis 13: There is no significant difference in the mean scores obtained on the I-E scale between this study and the norms published by Rotter (1966).

A T-test was used to determine if the means were significantly different in this sample and in the sample reported by Rotter (1966) that most closely fits the norm. The results are reported in Table 10.

TABLE 10

T-Test for Significance Between Means Locus of Control (I-E Scale)

Sample	Number of Cases	Mean	Standard Deviation	Degrees of Freedom	t-value
Present Study	46	9.91	3.52	213	- .884
Norming Sample a)	169	9.62	4.07		

Note: a) Data obtained from Rotter, 1966
(University of Connecticut, Females Only Data)

The value obtained was not significant at the .05 level.

Conclusion: The scores obtained on the I-E scale in this study were not significantly different from the sample used in norming the test (Rotter, 1966). The null hypothesis is retained.

Hypothesis 14: There is no significant difference in the mean scores obtained on the HGSHS:A between this sample and a sample of the "normal" population (Fife and Thorne, 1975) and another study's sample of overweight women (from Thorne, Rasmus, and Fisher, 1976, who call their sample "Fat Girls").

T-tests were used to determine if there were significant differences between the mean score of the present sample and the mean score of each of the samples used in the previous studies. A summary of the mean scores and standard deviations are reported in Table 11 and results of the *T*-tests are reported in Table 12.

TABLE 11

Mean Scores and Standard Deviations from Selected Studies: Harvard Group Scale of Hypnotic Susceptibility: Form A

		Number of Cases	Mean Score	Standard Deviation
1981	Present Study	46	7.109	2.913
1975	"Normal" Sample[a]	58	6.32	2.86
1976	"Fat Girls" Study[b]	258	9.17	2.50

Note: a) Data obtained from Fife and Thorne, 1975

b) Data obtained from Thorne, Rasmus, and Fisher, 1976

TABLE 12

T-Tests Comparing Present Sample Means with Prior Selected Studies: Harvard Group Scale of Hypnotic Susceptibility: Form A

		Degrees of Freedom	t-value
1976	"Fat Girls" Study[a]	302	4.98*
1975	"Normal" Sample[b]	102	-1.41

Note: a) Data obtained from Thorne, Rasmus, and Fisher, 1976

b) Data obtained from Fife and Thorne, 1975

The value obtained from comparing the mean scores of the present sample and the "normal" sample was not significant at the .05 level. The value obtained from comparing the present sample and the "Fat Girls" sample was significant at the .05 level, with the "Fat Girls" mean scores being significantly higher (more susceptible).

Conclusion: While this sample did not differ significantly in hypnotic susceptibility from the "normal" sample (Fife and Thorne, 1975), it was significantly lower in hypnotic susceptibility than another sample of overweight females (Thorne, Rasmus, and Fisher, 1976).

Summary: In this study it was found that all weight loss programs resulted in a significant loss of weight over the seven weeks of treatment and eight week follow-up period. There was no significant difference in weight loss for subjects between weight loss programs, Internal or External locus of control subjects, and between High and Low hypnotically susceptible subjects, whether analyzed by group or taken as a whole. There was one significant interaction effect whereby Internal subjects in the Waiting-Control group appeared to have lost more weight at various times than did External subjects in the group. This was likely due to a deviant score. Over the four week waiting period, the

Waiting-Control group subjects lost significantly less weight (in fact, gained weight) than the Hypnosis and Cognitive-Behavioral group subjects in the fourth week of their program. This indicates weight loss was due to treatment over time, not merely to passage of time.

Locus of control was significantly negatively correlated with obesity. Hypnotic susceptibility correlated neither with locus of control nor obesity. At the end of the study, subjects in all weight-loss groups and in the drop-out group were similar in mean locus of control. They differed significantly in hypnotic susceptibility, with the Cognitive-Behavioral and the Drop-out group subjects being significantly more susceptible than the Waiting-Control group subjects.

The locus of control scores and hypnotic susceptibility scores of subjects in this sample did not differ significantly from samples of the normal population from previous studies (Rotter, 1966; Fife and Thorne, 1975). The subjects in this sample were significantly less susceptible than a previous sample of overweight females (Thorne, Rasmus, and Fife, 1976).

CHAPTER V

DISCUSSION AND CONCLUSIONS

Hypotheses

The data did not support null hypothesis 1 which stated that there was no significant difference between the mean weight change of the Waiting-Control group, after the four week waiting period, and that of the other two groups, then in Week 4 of their weight loss program. Subjects in the other two groups (Cognitive-Behavioral and Hypnosis) had lost weight over this time period, while the subjects in the Waiting-Control group had gained weight. This suggests that the weight-loss programs, not the passage of time, was responsible for the weight-loss incurred by subjects after the programs were started.

The data supported null hypotheses 2 and 3 that there was no significant difference in overall mean weight loss or weekly weight loss between subjects in the Cognitive-Behavioral, Hypnosis, and Waiting-Control groups. However, all groups of subjects lost a significant amount of weight over time. This suggests that both Cognitive-Behavioral and Hypnosis therapies are equally viable treatments for obesity, for the sample as a whole. Such findings do not contradict the literature for, as has been seen in Chapter II, these two therapies have not been adequately compared in the literature (Wing and Jeffrey, 1979; Mott and Roberts, 1980) and there is nothing to contradict. The difference in the pattern of weight loss for the two treatments (Hypnosis-produced weight loss was slow and steady, while Cognitive-Behavioral and Waiting-Control were unsteady and fluctuating) suggests that different processes may be operating in the weight loss.

Null hypothesis 4 was rejected, in that there was a significantly different weight loss between internal and external locus of control subjects in one of the three groups. This rejection of the hypothesis was due to finding a significant time by locus of control interaction effect in the Waiting-Control group, where Internal subjects as a group lost more at various times than External subjects. However, as explained in Chapter IV, this difference was likely due to scores of an extreme subject in a small group influencing the mean. The fact that the Cognitive-Behavioral group, which received the same weight loss treatment as the Waiting-Control group, showed no such interaction, suggest the result was not due to weight-loss technique.

These null findings are further supported by the retention of post-hoc null hypothesis 9. There is no significant difference in mean weight change between weight loss groups for External locus of control subjects and for Internal locus of control subjects. No one group treatment produced better results for Internal or External subjects.

Hypothesis 6 was supported, with data showing that there was no difference in weight loss between Internals and Externals over all groups.

Graphs suggested the following trends: that Internals lost most weight in the Waiting-Control and Cognitive-Behavioral treatments, and lost more weight than Externals in these groups; that Externals lost most weight in the Hypnosis treatment, and lost more than the Internals in this group. Such trends are contrary to the findings of Balch and Ross (1975) and Cohen and Alpert (1978), where internals consistently lost more weight regardless of treatment, and to the expectations of Schacter (1971), by which externals should lose more weight in a treatment with a behavioral component focusing on awareness of external food cues. However, as these trends are not significant, the trends may be artifactual.

Thus the null results may support the findings of Gormally, Rardin, and Black (1980) who found no relationship between weight loss and locus of control. The results may also support the findings of Kilmann and Howell (1974), and Donahue (1977), who found no interaction between locus of control and therapy directiveness. This last statement is difficult to substantiate with this study, as each of the two treatment procedures may be equal in directiveness. Both studies had a directive aspect: cognitive-behavioral lectures and prescribed homework; hypnosis suggestions and prescribed homework; fee paying for weight-loss given out by the experimenter. Both studies had a nondirective component: cognitive-behavioral subjects devised their own goals and ways to meet them; hypnosis subjects were taught and encouraged to use self-hypnosis; both groups had informal unstructured discussions at the end of each session. As well, each group was run by the same experimenter whose directiveness style was likely equal for each group.

Thus, the most that can be said is that the content of the treatments per se (i.e. hypnosis vs. cognitive-behavioral techniques) do not appear any different in benefits for Internal or External locus of control subjects.

Null hypothesis 5 (there is no significantly different weight loss between High and Low hypnotically susceptible subjects in any of the three groups) and null hypothesis 6 (there is no significant difference in mean weight change between High and Low hypnotically susceptible subjects over all conditions) were supported by the data. Post-hoc hypothesis 10 was also supported in that no significant difference was found between weight loss groups for High and for Low hypnotically susceptible subjects.

Trends identifiable from the Figures were minimal and inconsistent (e.g. both Waiting-Control and Cognitive-Behavioral groups received the same treatment, but in one Highs did better, while Lows did better in the other).

These results are contrary to findings by Orne (1970), who found high susceptible subjects to follow instructions better under hypnosis than low susceptible subjects, while low susceptible subjects were more likely to follow instructions better and do well in therapy than do high subjects, when hypnosis was not involved.

However, the findings were consistent with those of Cohen and Alpert (1978), who found no relationship between hypnotic susceptibility and weight loss. "This finding agrees with the impression of hypnotic practitioners and with experimental work" (Cohen and Alpert, 1978, P.805). Thus it appears that even subjects low in hypnotic susceptibility can benefit from hypnotherapy packages. It is possible that some aspects of the treatment work for low hypnotic subjects better than for high subjects, thus equalizing possible trance-depth effects. However, these findings also support Barber's (1969) contention that the effects of hypnosis can be attained without a "hypnotic trance". If a "trance" is unnecessary, low hypnotic susceptibility subjects, with little "trance depth" could thus lose weight as well as hypnotized subjects.

Null hypothesis 7 was in part supported and in part not supported by the data. As stated in hypothesis 7, no relationship was found between obesity and hypnotic susceptibility with this sample. This finding is not consistent with those of Thorne, Rasmus, and Fisher (1976). They found their sample of obese females to be significantly more hypnotically susceptible than the normal population. However, in support of post-hoc hypothesis 14, subjects in this sample of obese females did not differ significantly from the normal population, and were significantly lower than Thorne et al's (1976) sample in hypnotic susceptibility. This writer would agree with Thorne et al, in that the demand characteristics of Thorne et al's study appealed to a specific motive in their sample. Their sample of subjects was led to believe that acceptance into the weight loss program was dependent upon their performance on the Harvard Scale (Thorne et al, 1976). No such expectation was created with the present study, giving a more accurate indication of the hypnotic susceptibility of obese females.

The second part of hypothesis 7 (that there is no correlation between obesity and locus of control) was not supported by the data. It was found that the more obese a subject was, the more internal she was likely to be. This contradicts both the findings of obese people being more external (MacArthur and Burstein, 1975), and of no relationship between obesity and locus of control (Gormanous and Lowe, 1975).

One difference between the present study and the other two lies in the motives of the volunteers. Subjects in the previous two studies were selected from a student subject pool for a one-shot personality experiment. Subjects in this present study volunteered for treatment for obesity. There is some evidence to suggest that self-motivated people seeking mastery over a problem tend to be more internal (Phares, 1976). Thus locus of control for volunteers for treatment, with varying degrees of a problem, may differ in distribution of locus of control from a similar population of non-volunteers.

As well, the previous two studies looked at occurence of externality and internality between two populations: obese and normal. They did not examine distribution of I-E scores within each population sample.

However, in terms of numerical incidence of locus of control scores, the sample in this study was not significantly different from the normal population (supporting hypothesis 13). This is consistent with the findings of Gormanous and Lowe (1976).

There was no significant correlation found between locus of control and hypnotic susceptibility with this sample, supporting null hypothesis 8. This contradicts the findings of Austrin and Pereira (1978), who used normal subjects, but is consistent with the results of Cohen and Alpert (1978), who also dealt with an obese, female population. This suggests that obese women differ in the combination of these traits from the normal population, and perhaps these traits then work differently in therapy than do non-obese people's.

Post-hoc hypothesis 11 was supported by the data in that there was no significant difference in mean locus of control scores between any of the groups of subjects, including the group of subjects who dropped out of the study. This suggests findings of comparisons between groups were not influenced by groups unequal in locus of control.

However, null hypothesis 12 (there is no significant difference in mean hypnotic susceptibility scores between any of the groups of subjects, including those who dropped out of the study) was rejected. It was found that subjects who dropped out of the study, and subjects in the Cognitive-Behavioral group were significantly more susceptible than the Waiting-Control group. This bias in susceptibility between groups may have confounded the results. However, this is unlikely, as no difference in effects were found between the Waiting-Control and Cognitive-Behavioral groups.

Findings and Implications For Future Research

The finding of no significant difference in weight loss for subjects in the two treatment groups has important implications.

The first is that there appears to be an alternative treatment of choice to cognitive-behavioral therapy of obesity: hypnotherapy. Thus practitioners with skills in either of these approaches can be confident in their use for treatment of obesity. Future research may investigate if the combination of the two approaches is more effective for treatment of obesity than either hypnotherapy or cognitive-behavioral therapy alone. As well, future researchers may determine what it is about hypnotherapy and cognitive-behavior therapy that allows for equal effectiveness: Are there similar, or different processes at work (as was suggested by the different weight loss patterns of subjects in the two weight loss programs).

Also, hypnotherapy for obesity could be compared to other therapies besides cognitive-behavioral therapy. It follows that, if hypnotherapy is as effective as cognitive-behavioral therapy, and if cognitive-behavioral therapy is superior to others, hypnotherapy ought to be superior as well. This relationship needs to be borne out in research.

Also, this study should be replicated, perhaps with multiple groups of each type of treatment. It is possible, as noted in Chapter III, that lack of significant differences may be due to small sample size. Larger sample sizes would be clinically unwieldy. Therefore, more small groups using more than one blind experimenter, confirming each other's findings would be helpful.

A group receiving only diet therapy alone should also be included. It may be that subjects in all groups lost weight similarly because they all received the same diet. Thus Wing and Jeffrey's (1979) findings (that behavior therapy allows people to lose the same amount of weight but to keep it off longer) could be replicated and expanded to allow comparison of diet alone to hypnotherapy.

This study also found no differences in weight-loss between Internal and External locus of control subjects, and between High and Low hypnotic susceptibility subjects, in any or over all of the treatment groups. This suggests that both weight loss treatments are effective along the whole of each of these personality dimensions. It would be interesting to see if other personality variables predisposed different people for success in different weight loss therapies.

An important implication for treatment lies in the generalizeability of these results across different subject populations. As was found in the research (Cohen and Alpert, 1978), and as was supported in this study, obese females differ from normals, in that locus of control and hypnotic susceptibility do not correlate with each other. Thus, obese people differ in some ways from normals. How do the obese differ from each other? Would hypnotherapy and cognitive-behavioral therapy work equally as well as each other for obese men; for obese people with more serious psychopathology; for intellectually gifted or intellectually borderline intelligence obese; for different degrees of obesity; for obesity that is post-menopausal? These questions are important from a clinical standpoint and must be researched.

As well, in view of the scanty hypnosis research, it would be interesting to see how different hypnosis treatment components could be combined, and to compare them to the combination used in the present study. Would other hypnosis treatment combinations also be as, more, or less effective than cognitive-behavioral therapy; and again, for whom?

Finally, it would be interesting to see if different types of counsellors can all utilize hypnosis and/or cognitive-behavioral therapy equally well. As well as matching the therapy to the client, it may be important to match the therapy to the counsellor.

SUMMARY

This study provided an examination of Hypnosis and Cognitive-Behavioral therapies for obesity. Comparison of two standard, ecologically valid treatment packages found no difference in weight-loss for subjects in the Hypnosis and Cognitive-Behavioral groups. Use of the Waiting-Control group determined that weight-loss was not due to the passage of time alone. Both treatment programs provided successful weight loss.

This sample was found not to differ from the normal population on locus of control or hypnotic susceptibility. There was no locus of control/treatment interaction and no hypnotic susceptibility/treatment interaction effect. Locus of control was negatively correlated with obesity, such that the more obese a subject, the less external she was.

Comparison of treatment packages is a first step in comparing the efficacy of hypnotherapy for obesity. The next step is replication of the results, and a closer examination of the components of hypnotherapy to determine when, and for whom, it is the most powerful treatment for obesity. To treat obesity, powerful tools are needed.

This study has also provided a first step in determining who responds to what kinds of treatment. Research should next determine if findings are generalizeable to other obese treatment groups and other personality traits. By wedding the knowledge of the best use of the available treatments with the knowledge of what treatment is best for each person, we may gain the powerful tools we need.

REFERENCES

REFERENCES

Abramovitz, C. V., Abramovitz, S. I., Roback, H. B. & Jackson, C. "Differential Effectiveness of Directive and Non-Directive Group Therapies as a Function of Client Internal-External Control". *Journal of Consulting and Clinical Psychology*, 1974, 42(6), 849-53.

Aja, J. H. Brief Treatment of Obesity Through Ancillary Self-Hypnosis. The American Journal of Clinical Hypnosis, Vol.19(4), April 1977, P.231-234.

Austrian, H. R. & Pereira, M. J. Locus of Control as a Predictor of Hypnotic Susceptibility. *American Journal of Clinical Hypnosis*, Vol.20(3), January 1978, P.199-202.

Balch, P. & Ross, A.W. Predicting Success in Weigh[illegible]duction as a Function of Locus of Control: A Unidime[illegible]onal and Multidimensional Approach. *Journal of C[illegible]lting and Clinical Psychology*, 1975, Vol.43(1), P.119.

Barber, T. X. & Glass, L.B. "Significant Factors in Hypnotic Behavior". *Journal of Abnormal Psychology*, 1962, 64, P.222-228.

Barber, T. X. *Hypnosis: A Scientific Approach*. Toronto: Van Nostrand Reinhold Co., 1969.

Bellack, A. S. "Behavior Therapy for Weight Reduction: an evaluative review." *Addictive Behaviors*, 1975, 1, P.73-82.

Bellack, A. S. "Behavioral Treatment for Obesity: Appraisal and Recommendations" in M. Hersen; R. M. Eisler, P. M. Miller (eds). *Progress in Behavior Modification*, Vol. 4. Academic Press, New York: 1977, P.1-34.

Bellack, A. S. & Schwarz, J. S. "Assessment for Self-Control Programs" in M. Hersen, A. S. Bellack (eds). *Behavioral Assessment: A Practical Handbook*. Pergamon Press, Toronto: 1976, P.111-142.

Best, J. A. "Tailoring smoking withdrawal procedures to personality and motivational differences". Journal of Consulting and Clinical Psychology, 1975, 43, P.1-8.

Best, J. A. & Steffy, R. A. "Smoking modification procedures tailored to S characteristics". Behavior Therapy, 1971, 2, P.177-191.

Best, J. A. & Steffy, R. A. "Smoking modification procedures for internal and external locus clients". Canadian Journal of Behavioral Science, 1971, 7, P.155-165.

Bradley, I., Poser, E. G., & Johnson, J. A. Outcome Expectation Ratings as Predictors of Success in Weight Reduction. Journal of Clinical Psychology, April 1980, Vol. 36(2), P.500-502.

Carroll, L. J., Yates, B. T., & Gray, J. J. "Predicting Obesity Reduction in Behavioral and Nonbehavioral Therapy from Client Characteristics: The Self-Evaluation Measure". Behavior Therapy, 1980, 11, P.189-197.

Cautela, J. R., & Wisocki, P. A. The Thought Stopping Procedure: Description, Application, and Learning Theory Interpretations. The Psychological Record, 1977(2), P.255-264.

Coe, W. C. "Further Norms on the Harvard Group Scale of Hypnotic Susceptibility: Form A." International Journal of Clinical and Experimental Hypnosis, 1964, Vol. 12(3), P.184-190.

Cohen, Neal L., & Alpert, M. Locus of Control as a Predictor of Outcome in Treatment of Obesity. Psychological Reports, 1978, 42, P.805-806.

Cohen, S. B. "Editorial Hypnosis for Obesity". The American Journal of Clinical Hypnosis, 1977, 22, P.1-2.

Collins, B. E. "Four Separate Components of the Rotter I-E Scale: Belief in a difficult world, just a world, a predictable world, and a politically responsive world". Journal of Personality and Social Psychology, 1974, 29, P.381-391.

Crosilneck, H. B. & Hall, J. A. Clinical Hypnosis: Principles and Applications. New York: Grune and Stratton, 1975.

Dahlkoetter, J., Callahan, E. J., & Linton, J. Obesity and the Unbalanced Energy Equation. Journal of Consulting and Clinical Psychology, 1979, Vol. 47(5), P.898-905.

Devine, D. A. Hypnosis and Covert Modelling in the Treatment of Obesity. Dissertation Abstracts International, 1979.

Donaher, B. G. "Rapid smoking and self control in the modification of smoking behavior". Journal of Consulting and Clinical Psychology, 1977, 45, P.1068-1075.

Dunkel, L. D. & Glaros, A. G. "Comparison of Self-Instructional and Stimulus Control Treatments for Obesity". Cognitive Therapy and Research, 1978, 2(1), P.75-78.

Friedlander, J. W. & Sarbin, T. R. "The Depth of Hypnosis". Journal of Abnormal Social Psychology, 1938, 33, P.453-475, as cited in Hilgard, 1965.

Friedman, M. L. W. "A comparison of behavior therapies for testing anxiety with students differing on internal-external locus of control". (Doctoral Dissertation, University of Maryland, 1972). Dissertation Abstracts International, 1972, 33, P.438B-439B.

Friedman, M. L. & Dies R.R. "Reactions of internal and external test anxious students to counselling and behavior therapies". Journal of Consulting and Clinical Psychology, 1974, 42, 921.

Fromm, E. & Shor, R. E. (eds). Hypnosis: Research Developments and Perspectives. Chicago: Aldine Publishing Company, 1972.

Glover, F. S. "Use of Hypnosis for Weight Reduction in a Group of Nurses". American Journal of Clinical Hypnosis, 1961, 3, P.250-251.

Gormally, J., Rardin, D., & Black S. "Correlates of Successful Response to a Behavioral Weight Control Clinic". Journal of Counselling Psychology, 1980, Vol. 27(2), P.179-191.

Gormanous, G. K. & Lowe, W. C. Locus of Control and Obesity. Psychological Reports, 1975, 37, P.31.

Gurin, P., Gurin, G., Lao, R. C. & Beattie, M. "Internal-External Control in the Motivational Dynamics of Negro Youth". Journal of Social Issues, 1969, 25, 29-53.

Haber, C. H., Nitkin, R. & Shenker, I. R. Adverse Reactions to Hypnotherapy in Obese Adolescents: A Developmental Viewpoint. Psychiatric Quarterly, 1979.

Hanley, F. W. "The Treatment of Obesity by Individual and Group Hypnosis". Canadian Psychiatric Association Journal, 1967, 12, 549-551.

Hartland, J. Medical and Dental Hypnosis and its Clinical Applications. London: Bailliere Tindall, 1971.

Hautzinger, M. Three-Year Follow-Up Data in Overweight Treatment. Journal of Clinical Psychology, April 1980, Vol. 36(2), P.530-533.

Heckerman, C. L. & Prochaska, J. O. "Development and Evaluation of Weight Reduction Procedures in a Health Maintenance Organization" in R. B. Stuart (ed). Behavioral Self Management: Strategies, Techniques and Outcomes. Bruner/Mazel Publishers, New York: 1977, P.215-229.

Hersch, P. D. & Scheibe, K. E. On the reliability and validity of internal-external control as a personal dimension. *Journal of Consulting Psychology*, 1967, 31, P.609-614.

Hershman, S. "Hypnosis in the treatment of obesity". *Journal of Clinical and Experimental Hypnosis*, 1955, 3, P.136-139.

Hilgard, E. R. *Hypnotic Susceptibility*. New York: Harcourt, Brace, and World, Inc., 1965.

Hilgard, E. R. Toward a Neo-Dissociation Theory: Multiple Cognitive Controls in Human Functioning. *Perspectives in Biology and Medicine*, Vol. 17(3), Spring 1974, P.301-316.

Hilgard, E. R. and Hilgard, J. R. *Hypnosis in the Relief of Pain*. California: William Kaufman, Inc., 1975.

Hochreich, D. J. "Defensive externality and attribution of responsibility". *Journal of Personality*, 1974, 42, P. 543-557.

Hurley, J. D. Differential Effects of Hypnosis, Biofeedback Training and Trophotropic Responses on Anxiety, Ego Strength and Locus of Control. *Journal of Clinical Psychology*, April 1980, Vol. 36(2), P.503-507.

Johnson, W. G., Stalonas, P. M., Christ, M., & Pock, S. R. "The Development and Evaluation of a Behavioral Weight-Reduction Program". *International Journal of Obesity*, 1979, 3, P.229-238.

Kazdin, A. E. Research Issues in Covert Conditioning. *Cognitive Therapy and Research*, Vol. 1(1), 1977, P.45-48.

Kilmann, P. R., Albert, B. M., & Sotile, W. M. Relationship Between Locus of Control, Structure of Therapy and Outcome. *Journal of Consulting and Clinical Psychology*, 1975, Vol. 43(4), P.588.

Kilmann, P. R. & Howell, R. J. Effects of Marathon Group Therapy and Locus of Control on Therapeutic Outcome. Journal of Consulting and Clinical Psychology, 1974, Vol. 42(6), P.912.

Kincey, J. "Target-Setting, Self-Reinforcement Patterns and Locus of Control Orientation as Predictors of Outcome in a Behavioral Weight Loss Programme". Behavior Research and Therapy, 1980, Vol. 18(2), P.139-145.

Kroger, W. S. & Fezler, W. D. Hypnosis and Behavior Modification: Imagery Conditioning. Toronto: J. P. Lippincott Co., 1976.

Lefcourt, H. M. Locus of Control: Current Trends in Theory and Research. Hillsdale, New Jersey: Lawrence Erlbaum Associates, 1976.

Levenson, H. "Multidimensional Locus of Control in Psychiatric Patients". Journal of Consulting and Clinical Psychology, 1973, 41, P.397-404(a).

Levenson, H. "Perceived parental antecedents of internal powerful others, and chance locus of control orientations". Developmental Psychology, 1973, 9, P.268-274.

Levenson, H. "Activism and Powerful Others: Distinctions Within the Concept Internal-External Control". Journal of Personality Assessment, 1974, 58, P.377-383.

London, P., Cooper, L. M., & Johnson, H. J. "Subject Characteristics in Hypnosis Research". International Journal of Clinical and Experimental Hypnosis, 1962, 10, P.13-21.

Mahoney, M. J. "Self-Reward and Self-Monitoring Techniques for Weight Control". Behavior Therapy, 1974, 5, P.48-57.

Mahoney, M. J. & Mahoney, K. Permanent Weight Control. New York: W. W. Norton and Co., Inc., 1976(a).

Mahoney M. J. & Mahoney, K. "Treatment of Obesity: a clinical exploration" in B. J. Martin, S. Martin, and J. P. Foreyt (eds) Obesity: Behavioral Approaches to Dietary Management. New York: Bruner/Mazel, 1976, P.30-41(b).

Marston and Feldman, 1972, in A. S. Bellack, "Behavioral Treatment for Obesity" in Hersen et al (eds) Progress in Behavior Modification. New York: Academic Press, 1977.

Mayer, J. Overweight: Causes, Cost and Control. New Jersey: Prentice-Hall, Inc., 1968.

McArthur, L. Z. & Burstein, B. "Field Dependent Eating and Perception as a Function of Sex and Weight". Journal of Personality, 1975, 43, P.402-420.

McConkey, T. M., Sheehan, P. W. & Law, H. G. "Structural Analysis of the H.G.S.H.S.:A". The International Journal of Clinical and Experimental Hypnosis, 1980, Vol. 28(2), P.164-175.

Meichenbaum, D. Cognitive-Behavior Modification: An Integrative Approach. New York: Plenum Press, 1977.

Meinster, M. O. "The interaction of locus of control and type of therapy on the response to treatment of social anxiety". (Doctoral Dissertation, Rutgers University, 1974). Dissertation Abstracts International, 1974, 35, P.3025B-3026B.

Miller, M. M. "Hypnoaversion treatment in alcoholism, nicotinism and weight control". Journal of the National Medical Association, 1976, 68, P.129-130.

Mirels, H. L. Dimensions of Internal versus External Control. Journal of Consulting and Clinical Psychology, 1973, 82, P.62-73.

Mott, T. & Roberts J. Obesity and Hypnosis: A Review of the Literature. American Journal of Clinical Hypnosis, 1979, 22, P.3-7.

Musante, G. J. "Affective and Cognitive Behavior Change: Essential Components to Comprehensive Obesity Treatment" in *Obesity: Behavioral Approaches to Dietary Management*. Williams et al (eds), New York: Bruner/Mazel Publishers, 1976, P.177-185.

Norris, D. L. "Barber's Task-Motivational Theory and Post-Hypnotic Amnesia". *American Journal of Clinical Hypnosis*, 1973. P.181-189.

O'Connell, D. N. "An Experimental Comparison of Hypnotic Depth Meansured by Self-Ratings and by an Objective Observer". *International Journal of Clinical and Experimental Hypnosis*, 1964, Vol. 12(1), P.34-46.

Orne, M. T. Hypnosis, Motivation, and the Ecological Validity of the Psychological Experiment, in Arnold, W. J. and Page, M. M. (eds). *Nebraska Symposium on Motivation*. Lincoln: University of Nebraska Press, 1970, P.187-267.

Paananen, N. R. "*Hypnotic Susceptibility and Interpersonal Trust*". M.Ed. Thesis, University of Alberta, Fall 1976.

Phares, E. J. *Locus of Control in Personality*. Morristown, N.J.: General Learning Press, 1976.

Polivy, J., Herman, C. P., & Wash, S. Internal and External Components of Emotionality in Restrained and Unrestrained Eaters. *Journal of Abnormal Psychology*, 1978, Vol. 87(3), P.497-504.

Rimm, D. C. & Masters, J. C. *Behavior Therapy: Techniques and Empirical Findings*. New York: Academic Press Inc., 1974.

Rodin, J. "Cognitive-Behavior Therapy for Obesity" in D. Meichenbaum (ed) *Cognitive-Behavioral Therapy Series*. New York: B.M.A. Audio-Cassettes Inc., 1978.

Rodin, J., Slowocher, J., & Fleming, B. "Effects of Degree of Obesity, Age of Onset, and Weight Loss on Responsiveness to Sensory and External Stimuli". Journal of Comparative and Physiological Psychology, 1977, 91(3), P.586-597.

Rotter, J. B. "Generalized Expectancies for Internal versus External Control of Reinforcement". Psychological Monographs, 1966, Vol. 80(1).

Rotter, J. B. "Some Problems and Misconceptions Related to the Construct of Internal vs. External Control of Reinforcement". Journal of Consulting and Clinical Psychology, 1975, 48, 56-67.

Sarbin, T. R. & Coe, W. C. Hypnotic Behavior: The Psychology of Influence Communication. New York: Holt, Rinehart and Winston, 1972.

Schacter, S. Some Extraordinary Facts about Obese Humans and Rats. American Psychologist, 1971, Vol. 26, P.129-144.

Schneider, J. M. & Parsons, O. A. "Categories of the Locus of Control Scale and Cross-Cultural Comparisons in Denmark and the United States". Journal of Cross Cultural Psychology, 1970, 1, 131-138.

Shor, R. E. & Orne, E. C. Harvard Group Scale of Hypnotic Susceptibility, Form A: Manual. Palo Alto, Ca.: Consulting Psychologists Press, Inc., 1962.

Shor, R. E. & Orne, E. C. "Norms on the Harvard Group Scale of Hypnotic Susceptibility: Form A". International Journal of Clinical and Experimental Hypnosis, 1963, 11(1), P.39-47.

Slowocher, J. "Emotional Labelling and Overeating in Obese and Normal Individuals". Journal of Psychosomatic Medicine, 1976, 38(2), P.131-139.

Spencer, J. A. & Fremouw, W. J. "Binge Eating as a Function of Restraint and Weight Classification". Journal of Abnormal Psychology, 1979, Vol. 88(3), P.262-267.

Spiegel, H. & Debetz, B. "Restructuring Eating Behavior with Self-Hypnosis". International Journal of Obesity, 1978, P.287-288.

Stanton, H. E. "Weight Loss Through Hypnosis". American Journal of Clinical Hypnosis, Vol. 18(2), October 1975, P.94-97.

Stanton, H. E. "Fee-Paying and Weight Loss: Evidence for an Interesting Interaction". American Journal of Clinical Hypnosis, Vol. 19(1), July 1976.

Stuart, R. B. "A Three-Dimensional Program for the Treatment of Obesity". Behavior Research and Therapy, 1971, 9, P.177-186.

Sutart, R. B. "Self-Help Group Approach to Self-Management" in Behavioral Self-Management: Strategies, Techniques, and Outcomes in R. B. Stuart (ed). New York: Bruner/Mazel Publishers, 1977. P.278-305.

Stunkard, A. J. "New Therapies for the Eating Disorders: Behavior Modification of Obesity and Anorexia Nervosa". Archives of General Psychiatry, 1972, 26, 391-398.

Stunkard, A. J. "Behavioral Treatments of Obesity: Failure to Maintain Weight Loss" in R. B. Stuart (ed) Behavioral Self Management. New York: Bruner/Mazel Publishers, 1977, P.317-350.

Stuehm, M. H., Cashew, V. M., & Johnson, J. J. "Preference for an Approach to Counselling". Psychological Reports, 1977, (41), P.124-126.

Thorne, D. E., Rasmus, C., & Fisher, A. G. Are "Fat Girls" More Hypnotically Susceptible? Psychological Reports, 1976, 38, P.267-270.

Tilker, H. & Meyer, R. "The Use of Covert Sensitization and Hypnotic Procedures in the Treatment of the Overweight Person: A Case Report." American Journal of Clinical Hypnosis, 1976, 19, P.47-49.

Weitzenhoffer, A. M. & Hilgard, E. R. Stanford Hypnotic Susceptibility Scale. Palo Alto: Consulting Psychologists Press, 1959.

Welkowitz, J., Ewen, R. B. & Cohen, J. Introductory Statistics for the Behavioral Sciences. New York: Academic Press, Inc., 1971.

Wick, E., Sigman, R., & Kline, M. V. Hypnotherapy and Therapeutic Education in the Treatment of Obesity: Differential Treatment Factors. Psychiatric Quarterly, 1971 (45), P.234-254.

Wing, R. R. & Jeffrey, R. W. "Outpatient Treatments of Obesity: a comparison of methodology and clinical results". International Journal of Obesity, 1979, Vol. 3(3), P.261-281.

Winkelstein, L. B. "Hypnosis, Diet and Weight Reduction". New York State Journal of Medicine, 1959, as cited in Mott and Roberts, 1980.

Wollersheim, J. P. "Effectiveness of Group Therapy Based upon Learning Principles in the Treatment of Overweight Women". Journal of Abnormal Psychology, 1970, 76, P.462-474.

Wooley, S. C., Wooley, O. W., & Dyrenforth, S. R. "Theoretical, Practical and Social Issues in Behavioral Treatments of Obesity". Journal of Applied Behavior Analysis, 1979, Vol. 12(1), P.3-25.

APPENDIX A:

DESIRABLE WEIGHT CLASSIFICATIONS FOR WOMEN

From: Robertson, E.C. Nutrition for Today
Toronto: McClelland and Stuart Limited, 1968
p.180

TABLE 51B

Desirable Weights for Women of Ages 25 and Over

Height (with shoes, 2 inch heels)		Weight in Pounds According to Frame (as ordinarily dressed)		
Feet	Inches	Small Frame	Medium Frame	Large Frame
4	10	92-98	96-107	104-119
4	11	94-101	98-110	106-122
5	0	96-104	101-113	109-125
5	1	99-107	104-116	112-128
5	2	102-110	107-119	115-131
5	3	105-113	110-122	118-134
5	4	108-116	113-126	121-138
5	5	111-119	116-130	125-142
5	6	114-123	120-135	129-146
5	7	118-127	124-139	133-150
5	8	122-131	128-143	137-154
5	9	126-135	132-147	141-158
5	10	130-140	136-151	145-163
5	11	134-144	140-155	149-168
6	0	138-148	144-159	153-173

(Metropolitan Life Insurance Company, 1959)

APPENDIX B:

GENERAL INFORMATION AND RESEARCH PERMISSION FORMS FOR ADMISSION TO THE STUDY

The University of Alberta
Edmonton, Alberta
T6G 2G5

FACULTY OF EDUCATION CLINICAL SERVICES

John G. Paterson
Co-ordinator

Speech	*Reading and Language*	*Psychological Testing*	*Counseling*
Helen G. Ilott	Grace Malicky	Heike Juergens	D. Donald Sawatzky

GENERAL INFORMATION

NAME ______________________________

ADDRESS ______________________________

PHONE NUMBER (HOME) ______________(WORK) ______________

AGE ____________

WEIGHT __________

HEIGHT __________

Are you currently involved in a weight-loss program or diet? yes ___

no ___

What programs have you tried before? ______________________________

____

____

How, if at all, were they successful for you? ______________________________

____

____

Do you have any medical problem (heart condition, diabetes, thyroid or kidney problem, etc.) which would prevent your participation?

(what & how) ______________________________

____

____

Is your current weight problem a result of any medical problem or drug side effect? yes___ no___ If so, from what? ________________

____

Are you pregnant? ____________

What else besides being slimmer do you expect to gain from this program? ____

____

____

How much weight do you expect to lose? _________________

How much weight do you want to lose? ___________________

The University of Alberta
Edmonton, Alberta
T6G 2G5

FACULTY OF EDUCATION CLINICAL SERVICES

John G. Paterson
Co-ordinator

Speech Helen G. Ilott | *Reading and Language* Grace Malicky | *Psychological Testing* Heike Juergens | *Counseling* D. Donald Sawatzky

RESEARCH PERMISSION

I understand that all information obtained by participating in this program will be kept confidential in accordance with good research ethics. Nothing which will personally identify me will be included in any verbal or written statements.

I give my permission that Lynne MacLean can use anonymous information obtained during this program for research purposes, including her thesis and subsequent research articles.

I also certify that I have not knowingly kept back any information about medical reasons which would make a diet or weight loss program injurious to my health.

I will not hold Lynne MacLean in any way responsible for health problems incurred during the time I am involved in her program.

____
signature

____
date

APPENDIX C:

INTERNAL-EXTERNAL LOCUS OF CONTROL SCALE

ONLY COPY AVAILABLE
SEULE COPIE DISPONIBLE

INSTRUCTIONS

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (*and only one*) which you more strongly *believe* to be the case as far as you're concerned. Be sure to select the one you actually *believe* to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief: obviously there are no right or wrong answers.

Your answers to the items on this inventory are to be recorded on a separate answer sheet which is loosely inserted in the booklet. REMOVE THIS ANSWER SHEET NOW. Print your name and any other information requested by the examiner on the answer sheet, then finish reading these directions. Do not open the booklet until you are told to do so.

Please answer these items *carefully* but do not spend too much time on any one item. Be sure to find an answer for *every* choice. Find the number of the item on the answer sheet and black-in the space under the letter A or B which you choose as the statement more true.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the *one* you most strongly believe to be the case as far as you're concerned. Also try to respond to each item *independently* when making your choice; do not be influenced by your previous choices.

1.a. Children get into trouble because their parents punish them too much.
   b. The trouble with most children nowadays is that their parents are too easy with them.

2.a. Many of the unhappy things in people's lives are partly due to bad luck.
   b. People's misfortunes result from the mistakes they make.

3.a. One of the major reasons why we have wars is because people don't take enough interest in politics.
   b. There will always be wars, no matter how hard people try to prevent them.

4.a. In the long run people get the respect they deserve in this world.
   b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5.a. The idea that teachers are unfair to students is nonsense.
   b. Most students don't realize the extent to which their grades are influenced by accidental happenings.

6.a. Without the right breaks one cannot be an effective leader.
   b. Capable people who fail to become leaders have not taken advantage of their opportunities.

7.a. No matter how hard you try some people just don't like you.
   b. People who can't get others to like them don't understand how to get along with others.

8.a. Heredity plays the major role in determining one's personality.
   b. It is one's experiences in life which determine what they're like.

9.a. I have often found that what is going to happen will happen.
   b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10.a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
   b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

11.a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
   b. Getting a good job depends mainly on being in the right place at the right time.

12.a. The average citizen can have an influence in government decisions.
   b. This world is run by the few people in power, and there is not much the little guy can do about it.

13.a. When I make plans, I am almost certain that I can make them work.
   b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14.a. There are certain people who are just no good.
   b. There is some good in everybody.

15.a. In my case getting what I want has little or nothing to do with luck.
   b. Many times we might just as well decide what to do by flipping a coin.

16.a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
   b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17.a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
   b. By taking an active part in political and social affairs the people can control world events.

18.a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
   b. There really is no such thing as "luck."

19.a. One should always be willing to admit mistakes.
   b. It is usually best to cover up one's mistakes.

20.a. It is hard to know whether or not a person really likes you.
   b. How many friends you have depends upon how nice a person you are.

21.a. In the long run the bad things that happen to us are balanced by the good ones.
   b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22.a. With enough effort we can wipe out political corruption.
   b. It is difficult for people to have much control over the things politicians do in office.

23.a. Sometimes I can't understand how teachers arrive at the grades they give.
   b. There is a direct connection between how hard I study and the grades I get.

24.a. A good leader expects people to decide for themselves what they should do.
   b. A good leader makes it clear to everybody what their jobs are.

25.a. Many times I feel that I have little influence over the things that happen to me.
   b. It is impossible for me to believe that chance or luck plays an important role in my life.

26.a. People are lonely because they don't try to be friendly.
   b. There's not much use in trying too hard to please people, if they like you, they like you.

27.a. There is too much emphasis on athletics in high school.
   b. Team sports are an excellent way to build character.

28.a. What happens to me is my own doing.
   b. Sometimes I feel that I don't have enough control over the direction my life is taking.

29.a. Most of the time I can't understand why politicians behave the way they do.
   b. In the long run the people are responsible for bad government on a national as well as on a local level.

APPENDIX D:

WEEKLY LESSON PLANS FOR COGNITIVE-BEHAVIORAL AND HYPNOSIS WEIGHT LOSS PROGRAMS AND ACCOMPANYING HANDOUTS

WEEK 1 COGNITIVE-BEHAVIORAL PROGRAM

Introduction to Problem-Solving Approach and Self Monitoring

Goals:
1. Introduce areas to be focussed on over the next six weeks.
2. Discuss (briefly) differences between obese and non-obese individuals.
3. Teach problem-solving approach ("Personal Science Approach").

Procedure:

I. Weigh subjects privately; collect $20.00 fee from each.

II. BASIC INTRODUCTION:

A. Problem-solving approach teaches each individual to assess her own needs and problems and come up with her own solutions.

B. An ongoing weight loss and maintenance approach to be used continuously after this six weeks ends.

C. Areas to be focussed on: 1. nutrition and exercise; 2. food related thoughts and feelings (cognitions); 3. environmental structuring; 4. gaining and using social support; 5. trouble-shooting and maintenance of desired weight.

III. Discuss Major Differences between Obese and Non-Obese Individuals

A. Genetic and metabolic factors.

B. Eating and activity levels (stress on much lower activity level for obese).

C. Major difference between successful dieters and unsuccessful dieters: self control skills, not willpower or hereditary factors.

IV. Problem-solving Approach:

Source of overweight: food intake and energy expenditure. Solution: learnable self control skills. Successful self control uses skills of research scientist and applies them to your own individual problem.

These basic skills are:

a) Specifying general problem area (e.g. food quality? quantity?)
b) Collect data (information, using records)
c) Identifying regularities (patterns) and possible problem sources
d) Examine various options and possible solutions
e) Narrow options and experiment (try out and examine results one at a time)
f) Extend, revise, or replace your solution

V. Self-Monitoring: Homework:

First step to put this approach into practise is to collect data on the general problem area: eating habits.

A) Hand out example of self monitoring record sheet; hand out calorie and exercise charts.

B) Don't try to change habits, just record: what eaten, when, where, calories - do for next 5-6 days.

C) On Day 6 or Day 7, review records; come up with one reasonable achievable goal - two alternative, concrete ways to reach goal.

From: Mahoney, M. J. and Mahoney, K. Permanent Weight Control
New York: W.W. Norton and Company, 1976.
p.102

EXAMPLES OF SELF-MONITORING

We recommend that you begin with a comprehensive system that will allow you to calculate your average daily intake of calories. This first self-monitoring system should also offer information on possible patterns (time of day, location, etc.). A form like the one below might be used:

FOOD INTAKE RECORD

Date ____________________

Day of Week ____________ Total Calories ____________

Time	Location	Food	Group	Quantity	Calories
8:15	Kitchen	poached eggs	dairy	3	240
	Kitchen	white toast	grain	2 slices	120
	Kitchen	butter(for toast)	dairy	2 pats	100
	Kitchen	milk	dairy	8 ounces	160
12:00	McDonald's	Big Mac Hamburger	meat, grain, & dairy (cheese)	1	600
	McDonald's	milkshake	dairy	8 ounces	320

FIGURE 4

Notice that each item in a meal gets a separate entry whenever possible. Also note the importance of having an accurate caloric guide, such as *The Brand Name Calorie Counter.*

The above system will require some effort on your part. Writing down everything you eat is not as easy as it may sound. It is important that you record your eating as soon as possible. Calorie calculations can be postponed until the end of the day.

From: Mahoney and Mahoney (1976, p.39)

EXAMPLES OF SELF-MONITORING (continued)

Friday, Oct. 12	Saturday, Oct. 13	Sunday, Oct. 14
10:00 Tab (16 oz.) 4 pieces raw cauliflower 3:00 glass of iced tea (16 oz) (no sugar) and 4 pieces Melba toast 6:00 small piece cake and 1 scoop of ice cream (Billy's birthday)	11:00 (shopping) Coke (12 oz.) and large sweet roll 2:30 Fresca (16 oz.) 4:30 half piece of birthday cake 9:00 2 cups unbuttered popcorn. 1 7-Up (16 oz)	11:30 1 doughnut, 1 Diet Pepsi (16 oz) 7:00 (restaurant) Coke (12 oz) and small piece of cheesecake

Friday, Oct. 19	Saturday, Oct. 20	Sunday, Oct. 21
2:00 2 pieces Halloween candy. 1 Fresca (16 oz) 8:00 2 cups unbuttered popcorn. 1 Diet Rite (16 oz)	11:00 (shopping) 2 doughnuts, 1 soft drink (12 oz.) 3:15 small bowl of low calorie gelatin 7:30-11:00 (guests) 2 small pieces cake, 1 Tab (16 oz)	10:30 1 glass iced tea (16 oz) (no sugar) 2:15 4 hot peppers, 1 dill pickle 4:00 cupcake 8:30 small tossed salad

WEEK I HYPNOSIS GROUP

Introduction to Self-Hypnosis and Practise in Hypnosis

Goal: To demonstrate and teach subjects how to do progressive relaxation-type hypnosis and self-hypnosis.

Purpose: 1. to make subsequent inductions faster and deeper

2. give subjects skills to use program at home

Procedure:

I. Weigh subjects; collect fees.

II. Brief introduction to hypnosis and this weight-loss program:

In the next six weeks we will:

- learn to do self-hypnosis
- lecture on nutrition, exercise and safe dieting
- cumulative addition of three sets of suggestions as you become more proficient in each suggestion in self-hypnosis.

III. Use following induction technique and group hypnotize subjects. (Adapted from Lazarus, 1971).

IV. Discussion and questions of preceding experience - distribute copies of summarized induction technique.

V. Group practise - each subject practises on herself 10 minutes.

VI. A. Discussion and questions.

B. Give homework: Practise once a day. Record amount of time it took, any problems, successes.

C. Distribute calorie and activity sheets. Tell subjects to look over and have for next week's lecture on nutrition and exercise.

Calorie and exercise caloric expenditure charts were taken from Mayer, J. Overweight: Causes, Cost and Control. New Jersey: Prentice-Hall Inc., 1968. 170-191.

All groups were given these handouts at Week I.

Adapted from: Lazarus, A. A. Behavior Therapy and Beyond.
Scarborough, Ontario: Holt, Rhinehart and Company, 1971

RELAXATION INSTRUCTIONS

1. Begin by getting as comfortable as you can -- loosen tight clothing, find a comfortable position, etc., and close your eyes.

2. Take 3 slow, deep breaths (inhale and exhale).

3. Tighten (clench for 5 secs.) and relax (for 20 secs.) the following: (a) both feet (b) feet and legs (c) stomach muscles (d) inhale deeply and hold breath (5 secs.) then release (e) arms and hands (f) face (screw facial muscles into a knot)

   As you relax each one, notice the difference between how the body part felt when it was tense and how it feels now it is relaxed. Note how pleasant the relaxed feeling is. -- THIS STEP IS OPTIONAL AFTER THE FIRST WEEK; USE WHEN QUITE TENSE.

4. Focus on your toes - imagine sensations of warmth, relaxation, and heaviness flowing from (a) toes to (b) knees (c) hips (d) stomach (e) up spine to (f) shoulders (g) arms (h) hands (note tingling sensation in finger tips) (i) neck (j) scalp (k) forehead (l) eyes (m) nose (n) ears (o) jaw -- NOTE: This takes long at first (30 secs. each x 15 = 450 secs. = 7-1/2 mins.) but, with practise, soon becomes almost instantaneous.

5. Think the word "relax" to yourself slowly, about 20 times (don't bother to count) -- (about 30 secs.) and as you do so, become more and more deeply relaxed.

6. Repeat step 5 substituting the words "calm and serene" (instead of "relax").

7. At this point you are completely and deeply relaxed. Your mind is relaxed, your body is relaxed, and you feel calm and serene and very, very relaxed.

8. SUGGESTIONS: Add suggestions (if any) at this point.

9. Count back from "5" to "1", at "3" eyes are open, at "1" you are fully alert.

WEEK 2 BOTH WEIGHT LOSS PROGRAMS

Nutrition and Exercise

Guest Speaker:
Dr. E. Donald, Nutritionist

Goal: To give information on nutritionally-sound weight loss.

Procedure:

I. Weigh in subjects, discuss homework, and refund $2.00 if homework done.

II. Dr. Donald speaks on nutritional and physiological aspects of weight loss.

Weight Reduction - Physiological/Nutritional Aspects

A. Why a Weight Problem?

1. Choosing inappropriate foods
2. Eating too much
3. Exercising too little

Ideal Energy Balance

Energy Intake = Energy Output

To Achieve Overweight

Energy Intake is greater than Energy Output

To Correct

Decrease Energy Intake and/or increase Output

End Result

- Lose Body Fat
- 1 lb. body fat = 3500 kcal.

B. Decreasing Energy Intake:

1. Decrease consumption of foods containing much energy and small amounts of other nutrients

   e.g. Decrease consumption of:

   - a) fat - butter, margarine
   - b) oils - salad dressing
   - c) candy
   - d) desserts

2. Nutrients giving energy:

	Amount Usual Diet
a) carbohydrate	48%
b) fat	40+%
c) protein	12-14%

Excess of any of the above in amounts over that needed is stored as body fat.

C. To Ensure Adequacy of Other Nutrients:

1. Follow Canada's Food Guide (C.F.G.)
   (Hand out a copy of the Guide)

2. Consume only number of servings suggested
   1100 - 1400 kcal/day

   Provide - needed amounts of other nutrients

   Minimum Energy Intake

Recommended:

- a) No lower than 1000 kcal/day
- b) If you decrease your daily intake by 500 kcal, you decrease your intake overall by 3500 kcal/week, so you lose 1 pound of body fat/week.
- c) Maximum weight loss - 2 lb./week.

Therefore - long time to put on - long time to take off.

III. Diet and Exercise:

(Hand out Activity Level Charts)

A. Exercise for weight loss:

- exercise results in increased energy expenditure and greater weight loss
- exercise improves health and fitness

B. How to Exercise:

1. Exercise means increased activity, not calisthenics. It need not involve strenuous exercise, but strenuous exercise builds heart and lungs.
2. Increase activity wherever possible and program your world to help (use stairs, not elevators).
3. Start slowly and increase as physical fitness increases.

IV. Choosing a Diet Plan:

A. Is it nutritionally sound?

B. Does it allow sufficient calories (at 1000 daily)?

C. Diet should encourage flexibility and choice

- "exchange system" diets usually easier to maintain.
- allows accommodation for exceptions (e.g. birthdays) and occasional treats by cutting back elsewhere - but don't abuse this freedom.

Increased flexibility = decreased guilt feelings and temptations to quit.
= increased emphasis on personal responsibility and rational choice.

D. Diet should not require radical changes in taste or lifestyle

- shouldn't require eating unsavory food or totally abandoning your favorites, or require expensive foods, costly preparation or special sacrifices. You'll quit if it does.
- should encourage gradual and partial changes in old eating habits.

E. Diet should be potentially permanent

- can you really *live* with it - reasonable calories, variety, no fasts or unsavory foods? Does it encourage gradual change and weight loss?

V. Discussion of presentations.

From Mahoney and Mahoney (1976, 103-104)

Determining Daily Calorie Requirements

To analyze your personal data, begin by totaling each day's calories. Then calculate your *average calorie consumption* by adding together each day's totals and then dividing by the number of days. For example, suppose your data were as follows:

Wednesday	2740 calories
Thursday	2310 calories
Friday	2840 calories
Saturday	3150 calories
Sunday	2875 calories
Monday	2480 calories
Tuesday	2330 calories

Adding these amounts together gives a weekly total of 18,725. Dividing by 7, we find an average daily intake of 2675 calories.

Now then, your first question should be, "Am I consuming too many calories?" To decide this, we will resort to a little more arithmetic. Begin by rating yourself on the activity scale outlined below.

13	14	15	16	17
very inactive	slightly inactive	moderately active	relatively active	frequent strenuous activity

If you are a sedentary office worker or a housewife you should probably rate yourself a "13". If you supplement a sedentary lifestyle with occasional activities (such as cleaning, low exertion sports, etc.) circle "14". A score of "15" means that you frequently engage in activities which require moderate exertion (e.g., daily calisthenics, jogging, etc.). Most of you are probably "13s" or "14s". A "16" requires that you are almost always on the go, seldom sitting down or standing still for long periods of time. Do not give yourself a "17" unless you are a construction worker or otherwise required to expend considerable energy on frequent strenuous tasks.

Recall that your activity rating gives an approximate calorie allowance for each pound you weigh. One way to decide whether you are overeating is to find your allowable calories for various desired weights. In the table below, find your activity rating and your desired weight for six months from now. (NOTE: Your desired weight should not be less than 90 percent of your current weight - watch your standards!)

TABLE 5

DAILY CALORIE ALLOWANCES

Desired Weight (lbs.)	Activity Rating					Desired Weight (lbs.)	Activity Rating				
	13	14	15	16	17		13	14	15	16	17
90	1170	1260	1350	1440	1530	200	2600	2800	3000	3200	3400
100	1300	1400	1500	1600	1700	210	2730	2940	3150	3360	3570
110	1430	1540	1650	1760	1870	220	2860	3080	3300	3520	3740
120	1560	1680	1800	1920	2040	230	2990	3220	3450	3680	3910
130	1690	1820	1950	2080	2210	240	3120	3360	3600	3840	4080
140	1820	1960	2100	2240	2380	250	3250	3500	3750	4000	4250
150	1950	2100	2250	2400	2550	260	3380	3640	3900	4160	4420
160	2080	2240	2400	2560	2720	270	3510	3780	4050	4320	4590
170	2210	2380	2550	2720	2890	280	3640	3920	4200	4480	4760
180	2340	2520	2700	2880	3060	290	3770	4060	4350	4640	4930
190	2470	2660	2850	3040	3230	300	3900	4200	4500	4800	5100

Suppose your activity rating was 14 and your daily calorie average was 2675. The table shows that this level of food consumption will *maintain* a weight of slightly more than 190. Generally speaking, if your daily calorie consumption is greater than that allowed for your (six month) desirable weight, then you probably need to cut back on food intake.

WEEK 2 COGNITIVE-BEHAVIORAL GROUP ONLY

- After Presentations and Discussion on Nutrition, Exercise, and Dieting:

VI. Homework: Each subject is to choose one of the two alternative methods they generated to reach the goal they chose.

Over the next week, each client is to implement the method, and evaluate if worked, or why it didn't, by the end of the week.

WEEK 2 HYPNOSIS GROUP ONLY

- After Presentations and Discussion on Nutrition, Exercise, and Dieting:

VI. A. Hypnotize subjects

B. Give "ego-strengthening suggestions". (Hartland, 1971).

C. Discuss.

VII. Homework: Practise self-hypnosis and ego-strengthening routine once daily. Record successes and difficulties.

Adapted from: Hartland, J. Medical and Dental Hypnosis and its Clinical Applications.
London: Bailliere Tindall, 1971, 198-202

Ego-strengthening Routine

You have now become *so* deeply relaxed...*so* deeply asleep...that your mind has become *so* sensitive...*so* receptive to what I say...that *everything* that I put into your mind (or you put into your mind)... will sink *so* deeply into the unconscious part of your mind...and will cause so deep and lasting an impression there that *nothing* will eradicate it.

Consequently...these things that I put (or that you put) into your unconscious mind...will begin to exercise a greater and greater influence over the way you think...over the way you feel...over the way you behave.

And...because these things *will* remain...firmly imbedded in the unconscious part of your mind...after you have left here...when you are no longer with me...they will continue to exercise that same great influence...over your *thoughts*...your *feelings*...and your *actions*... just as strongly..*just* as surely..*just* as powerfully...when you are back home...or at work...(or at university...as when you are with me in this room.

You are now *so very deeply asleep*...that *everything* that I tell you (or that you tell yourself) that is going to happen to you...*for your own good*...*will* happen...*exactly* as I tell you. And *every feeling*...that I tell you (or that you tell yourself) that you will experience...you *will* experience...*exactly* as I tell you.
And these same things *will continue to happen* to you...*every day*... and you *will continue to experience* these same feelings...*every day*... *just* as surely...*just* as powerfully...when you are back home...or at work...(or at university)...as when you are with me in this room.

During this deep sleep...*you* are going to feel physically *stronger* and *fitter* in every way.
You will feel *more* alert...*more* wide-awake...*more* energetic.
You will become *much* less easily tired...*much* less easily fatigued... *much* less easily discouraged...*much* less easily depressed.
Every day...you will become *so deeply interested* in whatever you are doing...in whatever is going on around you...that your mind will become *completely distracted away from yourself*.

You will no longer *think nearly so much about yourself...*you will no longer *dwell nearly so much upon yourself and your difficulties...* and you will become *much less conscious of yourself...much less pre-occupied with yourself...and with your own feelings.*

*Every day...*your nerves will become *stronger and steadier...*your mind *calmer and clearer...more composed...more placid...more tranquil.* You will become *much less easily worried...much less easily agitated...much less easily fearful and apprehensive... much less easily upset.*

You will be able to *think more clearly...*you will be able to *concentrate more easily.*

You will be able to *give up your whole undivided attention to whatever you are doing...to the complete exclusion of everything else.*

Consequently...*your memory will improve rapidly...*and you will be able to *see things in their proper perspective...without magnifying your difficulties...without ever allowing them to get out of proportion.*

Every day...you will become...and *you* will remain...*more and more completely relaxed...*and *less tense* each day...*both mentally and physically...*even when you are no longer with me.

And *as* you become...and *as* you remain...*more relaxed...and less tense* each day...*so...*you will develop *much more confidence in yourself...*much more confidence in your ability to do whatever you *ought* to be able to do...*without fear of failure...without fear of consequences...without unnecessary anxiety...without uneasiness.*

Because of this...*every day...*you will feel *more and more independent...more able to 'stick up for yourself'...to stand upon your own feet...to hold your own...*no matter how difficult or trying things may be.

*Every day...*you will feel a *greater feeling of personal well-being... a general feeling of personal safety...and security...*than you have felt in a long, long time.

And because all these things *will* begin to happen...*exactly* as I tell you (or you tell yourself) they will happen...*more and more rapidly...powerfully...and completely...*with every treatment... you will feel *much happier...much more contented...much more optimistic* in every way.

You will consequently become much more able to *rely upon...to depend upon...yourself...your own efforts...your own judgement...your own opinions.* You will feel *much less need...*to have to *rely upon... or to depend upon other people.*

WEEK 3 COGNITIVE-BEHAVIORAL PROGRAM

Cognitions: Food Related Thoughts and Feelings

Goal: Teach and discuss modification of maladaptive cognitions.

Procedure:

I. Weigh in, and discuss each subject's homework individually. Refund money for weight loss and homework.

II. Distribute "Cognitive Ecology" handout.

III. Explain how thoughts and feelings are connected (i.e. it is hard to feel depressed without thinking "I feel depressed").

A. Ellis (1975). A ------→ B ------→ C paradigm
activating event belief system emotional consequences

B. What you believe, or say to yourself makes a difference. In fact it determines the emotional consequences, both good and bad, which can lead to more "activating events", good or bad.

C. 1. Monologues with yourself can be negative (perfectionistic, catastrophic, irrational, self depracating) or they can be appropriate (reasonable, flexible, rational).

2. Show these monologues can result in different emotional consequences, and different behavior.

a. negative monologue:

i.A) activating event - breaking diet with dessert.
ii.B) belief system - How horrible! I've blown it! What a pig! I deserve to be fat!
iii.C) emotional consequences - feeling guilty, depressed, worthless, which leads to more overeating and vicious circle begins.

b. appropriate monologue:

i.A) activating event - breaking diet.
ii.B) belief system - Well I've broken my diet. If I stop eating now I can start dieting again. I can do this.

iii.C) emotional consequences - feeling of determination, vicious cycle broken.

IV. Detect and challenge negative monologues.

A. Check goals to make sure they are realistic and flexible so as not to lead to failure to meet perfectionist standards.

B. Record food related thoughts and feelings:

1) Check yourself for thoughts occurring prior to your eating, identify patterns.

2) Place a sticker on a prominant spot (e.g. on a clock) and monitor any food related thoughts and feelings.

3) Make up a list of appropriate monologues to challenge negative ones (as in handout).

4) If you find yourself eating in response to emotions with no precipitating food-related event, see what alternative ways you can devise to deal with that emotion.

V. Homework:

A. If necessary, choose another alternative to meet Week 1 goal; implement and evaluate.

B. Monitor food related thoughts and feelings, devise a goal and two alternative methods to reach it.

From Mahoney and Mahoney (1976, 62-63)

Cognitive Ecology: What You Say to Yourself

Permanent Weight Control

TABLE 3

Problem Category	Negative Monologues	Appropriate Monologues
Pounds lost	"I'm not losing fast enough." "I've starved myself and haven't lost a thing." "I've been more consistent than Mary and she is losing faster than I am--it's not fair."	"Pounds don't count; if I continue my eating habits, the pounds will be lost." "Have patience--those pounds took a long time to get there. As long as they stay off permanently, I'll settle for any progress." "It takes a while to break down fat and absorb the extra water produced. I'm not going to worry about it."
Capabilities	"I just don't have the will power." "I'm just naturally fat." "Why should this work--nothing else has." "I'll probably just regain it." "What the heck--I'd rather be fat than miserable; besides I'm not *that* heavy."	"There's no such thing as 'will power'--just poor planning. If I make a few improvements here and there and take things one day at a time, I can be very successful." "It's going to be nice to be permanently rid of all this extra baggage--I'm starting to feel better already."
Excuses	"If it weren't for my job and the kids, I could lose weight." "It's just impossible to eat right with a schedule like mine." "I'm just so nervous all the time--I have to eat to satisfy my psychological needs." "Maybe next time...."	"My schedule isn't any worse than anyone else's. What I need to do is be a bit more creative in how to improve my eating." "Eating doesn't satisfy psychological problems--it creates them." "Job, kids, or whatever, I'm the one in control."

TABLE 3 - continued

Problem Category	Negative Monologues	Appropriate Monologues
Goals	"Well, there goes my diet. That coffee cake probably cost me two pounds, and after I promised myself--no more sweets." "I always blow it on the weekends." "Fine--I start the day off with a doughnut. I may as well enjoy myself today."	"What is this--the Olympics? I don't need perfect habits, just improved ones." "Why should one sweet or an extra portion blow it for me? I'll cut back elsewhere." "Those high standards are unrealistic." "Fantastic--I had a small piece of cake and it didn't blow the day."
Food Thoughts	"I can't stop thinking about sweets." "I had images of cakes and pies all afternoon--it must mean I need sugar." "When we order food at a restaurant, I continue thinking about what I have ordered until it arrives."	"Whenever I find myself thinking about food, I quickly change the topic to some other pleasant experience." "If I see a magazine ad or commercial for food and I start thinking about it, I distract my attention by doing something else (phoning a friend, getting the mail, etc.).

WEEK 3 HYPNOSIS PROGRAM

Imagery Suggestions

Goal: To teach subjects to use imagery suggestions (Stanton, 1975) of imagining themselves at their goal weight and of eating appropriately.

Procedure:

I. Weigh in, collect homework and discuss it with each subject. Refund fees for weight loss and homework.

II. Discuss group's progress with their self-hypnosis as a whole.

III. Introduce concept of imagery suggestions--power of imagery working even without hypnosis (e.g. desensitization, cognitive sensitization).

IV. A. Have group demonstrate their self-hypnosis (for five minutes).

  B. Increase trance depth ("elevator technique" - of imagining oneself going down, down from a countdown of 20 to 1).

  C. Give "ego-strengthening" suggestions.

  D. Add imagery suggestions.

V. Homework: A) daily use of self-hypnosis and ego-strengthening routine

  B) use imagery five times daily: 1) on awakening; 2) before each meal; 3) when self hypnotizing.

Adapted from: Stanton, H.E. "Weight Loss Through Hypnosis". American Journal of Clinical Hypnosis, 1975 18 (2), 95-96

Imagery Suggestions

And now I want you to have a clear mental image, in your mind, of yourself standing on the scales and the scales registering the weight you wish to be. See this very, very clearly for this is the weight you will be. See yourself looking the way you would like to look with the weight off those parts of the body you want the weight to be off. See this very, very vividly and summon this image into your mind many times during the day; particularly just after waking in the morning and before going to sleep at night; also have it vividly in your mind before eating meals. And this is the way you will look, and this is the weight you will be. As you believe this, so it will happen. When you have attained this weight, you will be able to maintain it, you will find yourself eating just enough to maintain your weight at the weight you would like to be. Until you *do* attain this weight you will find you have less, and less desire to eat between meals. In fact, very, very soon, you will have no desire at all, to eat between meals. You simply will not want to. Also you will find you will be content with smaller meals. There will be no feeling of hunger or dissatisfaction, smaller meals will be quite satisfactory to you, and you will have no desire to eat large meals. Also you will have less, and less desire for high calorie, rich, unhealthy foods. Day by day, your desire for such foods will become less and less, until very, very soon, you will have no desire at all for rich, high calorie, unhealthy foods. Instead, day by day, you will desire low calorie, healthy foods, and these will replace the high calorie foods, the rich foods, you have eaten in the past. Imagine yourself eating a small, enjoyable meal of low calorie, healthy food. Imagine yourself feeling satisfied at the end of it. As you lose weight and approach closer and closer to the weight you wish to be you will find yourself growing stronger and stronger, healthier and healthier. Your resistance to illness and disease will increase, day by day. With less weight you will feel better and better, and your health will become better and better. Remember too, that your own suggestions will now be just as effective as the suggestions I give you, either personally or by tape.

WEEK 4 COGNITIVE-BEHAVIORAL PROGRAM

Environmental Controls

Goal: 1. To teach subjects theory of environmental controls of eating behavior.

2. To teach subjects how to change eating behaviors via environmental change.

Procedure:

I. Weigh subjects; look at homework from week 3 (detecting maladaptive cognitions, formulate goal and options); give out refunds.

II. A. Explain people don't live in vacuums and are affected by
three environments (internal cognitive--(last week)
(physical (this week)
(social (next week)

B. Antecedents to and consequences of behavior in all three environments.

S-------→ O-------→ R----→ Consequence:
1. short term consequence, pleasure,
2. then - self-condemnation,
3. long term consequence--fat, more self-condemnation

Stimulus	Organism	Response
internal (cognition) physical (food present) social	processing cognitive	eat

People do not live in vacuums. You are affected by your internal environment (cognitions), physical environment, and social environment. Understanding the relationship between behavior and self control is important. There are antecedents (cues, events preceeding behavior) of behaviors, and consequences of your behaviors. This includes eating behavior.

e.g. cue: the clock = noon hour = time to eat
result: you eat, even though not hungry
result: consequence: an immediate reward - good food overrides long term reward - fat.

This does not mean you are a victim of overwhelming environmental controls. Rather you can learn to control the environment to make weight loss and maintenance possible. This applies to all three environments. Last week, we looked at the internal, cognitive environment. This week we'll look at the physical environment. Next week we can look at the social environment.

III. Ways for people to program physical environments to increase cues and consequences helping appropriate patterns, and to decrease those encouraging inappropriate ones.

A. Accessibility of Food

Keeping fattening, tempting food in front of fridge, easy to reach places, in house at all, and easily prepared encourages eating - if low-calorie food is easily accessible, or you have to work to get at the fattening food, you'll be less likely to eat food you want to stay away from.

B. Trouble Knowing When to Stop

1. Little sensitivity to stomach cues in many obese. When food is in front - eating too rapidly in too large bites means no time for stomach messages to reach brain and signal "stop".

2. To improve this:
   - eat slowly
   - chew more, smaller bites
   - put utensils down
   - learn to stop before feeling full

C. Some Things Get Associated with Eating and Cue it

1. Try eating in one location only; this strengthens your association to it, and makes it less likely you'll eat elsewhere.

2. If possible, wait until hungry to eat.

3. Do you eat when someone else snacks?

4. Parental messages about "clean up your plate" - does a partially filled plate or throwing away uneaten food result in guilt?

D. Self Reward - make some immediate rewards for not eating.

Homework: 1) Put last week's cognitive goal and option into action and evaluate it.

2) Monitor physical environment and eating: time, place, food cues (seeing food, advertisements, clock), slow or fast eating.

3) Make a list of some short term rewards to give yourself in dieting to make it easier to reach long term goals.

From Mahoney and Mahoney (1976, 120-121)

Environmental Control Monitoring System

Date Dec. 20, 1975

Day of Week Monday

BEFORE					DURING				AFTER		COMMENTS
Time	Location	Were you thinking about food beforehand?	Did you see any food before you decided to eat?(Include advertisements)	Did you respond to a food offer?	Did you consume a relatively large amount (volume) of food?	Did you chew it very little or not at all?	Was the food mostly carbohydrate (no fat or protein)?	Did you eat fairly rapidly?	Did you feel stuffed?	Did you leave a full plate or empty carton?	
8:15	kitchen	X				X		X		X	breakfast (peanut butter on toast)
12:30	Burger Chef			X				X		X	lunch (fish sandwich and small juice)
3:15	den		X							X	snack (cheese and crackers)
6:00	dining room			X 2nd helping	X				X	X	supper (rice casserole and salad)
10:30	bedroom									X	snack (apple)

WEEK 4 HYPNOSIS GROUP

Goal: To teach subjects to use "body protection" suggestions of:

1) Fattening and unnecessary food is poison for my body.
2) I need my body to live.
3) I am going to protect and take care of my body. (Aja, 1977).

Procedure:

I. Weigh in, collect homework, give out refunds, discuss homework.

II. Discuss any problems with group as a whole.

III. Introduce concept of "body protection" suggestions.

IV. A. Have group hypnotize themselves (five minutes).
    B. Increase trance depth.
    C. Give ego-strengthening suggestions.
    D. Add imagery suggestions.
    E. Add "body protection" suggestions.

Evaluation:

V. Homework: A) daily hypnosis with ego-strengthening and "body protection" suggestions
    B) Imagery: five times daily
        1. upon waking
        2. before each meal
        3. when hypnotizing

Taken from: Aja, J. H. "Brief Group Treatment of Obesity through Ancillary Self-Hypnosis". American Journal of Clinical Hypnosis, 1944, 19(4), 232-233

Body Protection Suggestions

Very good. You are totally relaxed and at ease now. Your breathing is getting deeper and easier, with each additional breath you go deeper and deeper. I am going to give you three suggestions now which will help you to resist fattening and unnecessary foods, decrease the urge to eat, and possibly stop the urge to eat fattening and unnecessary foods altogether. I am going to say the three suggestions once and will then say them again slowly for you to repeat after me. The first suggestion is: Fattening and unnecessary food is poison for my body. The second suggestion is: I need my body to live. The third suggestion is: I am going to protect and take care of my body. Now, I am going to say them again, and I want you to repeat the suggestions aloud. As you repeat them, you will find that you are feeling fuller, more and more comfortable and relaxed, and have less and less need to eat: 1) Fattening and unnecessary foods are poison for my body. 2) I need my body to live. 3) I am going to protect and take care of my body. You are feeling better and better about your resolve to stop unnecessary eating and to use this technique and you know that each time you use this technique you will go deeper and deeper and it will become easier and easier for you to resist unnecessary and fattening foods. I am going to count to three now so that by the time I reach three your eyes will be open. You will feel wide awake and wonderful. One, Two, Three.

WEEK 5 COGNITIVE-BEHAVIORAL PROGRAM

The Social Environment

Goals: Teach subjects about:

1) how families or friends can cue or reward overeating;
2) how to gain their support for subject's efforts.

Procedure:

I. Weigh subjects, give out refunds, discuss homework.

II. Introduce importance of social environment--how it can work for or against you.

III. Social situations can cue eating:

- a) special occasions: parties, holidays, associated with good times
- b) eating whenever someone else does
- c) people offering seconds (mothers and mothers-in-law)

IV. Social situations can reward eating:

- a) host's pleasure when you eat seconds
- b) mothers pairing food and comfort as a child (does this continue for you as an adult?)

V. Significant others can sabotage dieting:

- a) pessimism - don't believe you really intend to lose weight
- b) overweight - resentful significant in others
- c) others fearful of change in you--will lose you (husbands, etc.)

VI. Ways to enlist aid of significant others:

A. Request active encouragement and their involvement in your efforts.
  1. request assertively, don't demand their support
  2. explain your program, goal setting, etc.

B. Ask them not to tease or criticize you about weight loss, or overeating, even if it's meant affectionately.

1. praise is important, not criticism
2. they should set their expectations appropriately, not perfectionistically--look at improvement, not perfection
3. ask them to help in your exposure to and accessibility of fattening food
4. ask for cooperation in a more active lifestyle--exercise can be more fun with others
5. support their support of you.

C. Become aware of how you respond to them--assertively? encouragingly?

Homework:

1. Put physical environment goal from last week into effect, and evaluate it.
2. Collect data on:
   a) whether family and friends help, hinder, or are neutral about your efforts;
   b) how you react to them (hand out example).
3. Formulate social-environment change goal and alternative methods to meet this goal.

From Mahoney and Mahoney (1976, p.87)

Engineering a Slim Environment

	Social Support Log Date________________		
Person	Their Actions		My Reactions
	Helping Me Avoid Food	Feedback On My Efforts	
Kay	Good; she agreed to snack by herself	Neutral; she hasn't said anything.	Poor; maybe I'm expecting too much--I should have thanked her for snacking alone
Dad	Poor; he still brings his beer and pretzels out at night.	Poor; teased me at supper about my new "fad diet".	Poor; at least he didn't offer me pretzels--I'll remember to thank him next time.
Aunt Mary	Poor; she brought over a cake tonight.	Poor; teased me about "wasting away to nothing".	Good; told her that her cakes are too good to resist. Asked her to help me by not bringing them over for a while.
John	Good; bought coconut cookies as a snack because he knows I don't like them.	Good; praised me for trying so hard.	Good; thanked him for his support; told him it helps a lot.

WEEK 5 HYPNOSIS PROGRAM

Practise and Discussion

Goal: For subjects to experience again, fix more firmly, and practise the three sets of suggestions.

Procedure:

Same as Week 4.

WEEK 6 COGNITIVE-BEHAVIORAL PROGRAM

More Problem-Solving and Maintenance

Goals:

1) Teach subjects ways to maintain and/or continue weight loss.
2) Find out how subjects perceived the program, what they liked and disliked, what worked for them.
3) Arrange a time eight weeks hence for follow-up.

Procedure:

A. Weigh in, collect homework, give out money.

B. Teach maintenance methods.

1. Introduction:

   ✓

   This is an approach to gradual change that will provide you with skills for continued progress and maintenance.

   - Revision and change will continue to be necessary to maintain your interest and to account for things like holidays, etc.
   - You will fall off the diet now and then. Learn to expect that and welcome it as a sign to look at what you're doing, collect data, and experiment.

2. Method:

   a) When you approach your own level of maintenance, gradually fade out your reliance on structured personal requirements.

      - Continue appropriate eating and activity with less and less recording, formulating goals and experimenting. Work toward the time your habits are adaptive enough to not warrant special attention. Transition should be gradual, not abrupt.

b) Weigh monthly, chart it, watch for trends. If you start to gain, use these problem-solving techniques again.

c) Once a month, evaluate physical, social, and internal environments. (Same day as you weigh in).

d) Use creative variety in your efforts - avoid boredom.

e) Be prepared for plateaus and problems:

such as holidays, childbirth, stressful periods in your life, and devise ways ahead of time to deal with them - substitute exercise for calorie leeway.

3. Discuss program with subjects.

4. Arrange time for follow-up meeting.

Homework: - given in maintenance methods.

WEEK 6 HYPNOSIS GROUP (Last Session)

Goals:

1) Reinforce the effect of the suggestions by practising them again.

2) Find out how subjects perceived the program, what they liked and disliked, what worked for them.

3) Arrange a time eight weeks hence for follow-up.

Procedure:

1. Weigh in, collect homework, give out refunds.

2. Give suggestions, same as Week 4:
   - a) ego-strengthening suggestions
   - b) imagery suggestions
   - c) body protection suggestions

3. Discuss program with subjects.

4. Arrange a time for follow-up meeting.

Homework: - The literature on what subjects were to do when programs were over is vague, so:

Suggest subjects use whatever works for them from this program - they may wish to experiment with frequency of hypnosis - daily, weekly, monthly - and with any one of the suggestions.

APPENDIX E:

SCORES ON ALL MEASURES FOR INDIVIDUAL SUBJECTS

SCORES ON ALL MEASURES FOR INDIVIDUAL SUBJECTS

SUBJECT #	ORIGINAL WEIGHT (Kg)	% OVER WEIGHT	WEIGHT CHANGE (Kg) BY WEEK 1	2	3	4	5	6	FOLLOW UP	ROTTER SCORE	HGSHS:A SCORE
Cognitive Behavioral Group											
1	73.9	25.0	3.4	-0.9	-3.4	-3.3	-3.5	-5.4	-4.1	13	11
2	97.2	83.4	1.7	-1.9	-2.3	-2.9	-3.1	-2.8	-2.5	3	3
3	68.4	31.0	.3	-1.3	-1.3	-1.6	-2.3	-3.1	-5.3	10	2
4	69.7	45.5	-3.0	-0.5	-0.5	-0.5	-1.7	-0.8		6	8
5	70.2	33.6	3.4	-0.5	-0.6	-0.3				9	12
6	81.2	41.1	1.7	-0.3	-1.5	-4.0	-5.6	-3.0	1.5	9	9
7	73.4	16.9	1.1	-2.4	.7	-0.9	-0.9	-0.5	-1.2	10	10
8	67.0	25.0	-1.2	-3.5	-1.4	-2.4	-2.3	-3.9	-3.1	7	11
9	72.1	41.6	-0.6	-1.1	.2	.4	.1	-1.8	-3.2	7	5
10	70.6	26.7	1.5	.4	4.0	4.2	3.2	4.7	3.7	11	3
11	72.0	44.9	1.5	-0.1	-1.1	-0.9	-2.5	-2.7	-2.8	9	6
12	69.6	41.3	2.8	-2.2	-1.3	-2.2	-3.4	-3.8	-4.6	11	3
13	65.6	25.9	-0.8	-2.6	-1.8	-0.7	-0.8	-1.0	1.7	12	7
14	73.2	29.2	2.7	-2.2	.1	-0.4	-1.0	-0.9	-0.1	9	10
15	74.1	29.3	1.3	-3.6	-0.6	-1.2	-1.2			13	6
Hypnosis Group											
16	93.5	65.3	.4	1.9	1.4	1.0	.8	.9	1.1	8	8
17	68.4	31.8	2.5	-0.3	-2.4	-2.1	-1.0	-1.7	-4.8	13	10
18	82.9	37.9	.2	.4	0.0	-1.9	-3.1	-2.5	-2.8	2	12
19	88.5	50.0	-0.1	.5	-0.9	-2.5	-2.3			13	8
20	72.7	19.7	5.7	1.1	-1.2	-1.6	-1.3	-2.8	-3.1	9	2
21	76.3	41.7	-0.9	.1	-0.4	-0.8	-0.5	-2.5		8	6
22	58.6	13.3	-0.9	-1.0	-1.0	-0.7	-2.5	-1.8	-3.2	18	8
23	66.0	20.5	8.7	-0.2	.3	-0.4	-1.3	-1.9	-2.5	12	3
24	58.0	17.8	-8.4	.1	-0.5	-1.0	-2.3	-3.6		7	5
25	72.7	43.0	2.2	-0.9	-1.6	-2.2	-2.0	-2.4	-3.8	11	3
Waiting Control Group											
26	64.6	31.8	-1.3	-1.0	-0.8	-0.2	-0.9	-1.3		12	3
27	80.9	65.9	3.6							9	2
28	75.5	45.1	1.0	-0.2	-2.7					1	5
29	82.4	53.9	1.3	2.3	2.3	2.2	2.0	1.9		15	9
30	62.7	17.7	0.0	-0.1	-1.7	-2.8	-3.1	-3.3	-4.8	8	8
31	64.3	23.9	.7	.8	0.0	-0.5	-0.8	-2.2	-1.9	16	8
32	108.6	106.9	-0.5	-1.5	-2.5	-4.9	-5.0	-6.0	-9.9	7	4
33	63.4	21.2	1.1	1.8	.6	-0.6	-0.9	-0.2	2.3	10	8

SCORES ON ALL MEASURES FOR INDIVIDUAL SUBJECTS

SUBJECT #	ORIGINAL WEIGHT (Kg)	% OVER WEIGHT	WEIGHT CHANGE (Kg) BY WEEK						FOLLOW UP	ROTTER SCORE	HGSHS:A SCORE
			1	2	3	4	5	6			
DROP OUT GROUP											
34		55.7								9	9
35		52.5								3	7
36		41.7								13	9
37		27.6								14	8
38		21.1								8	9
39		78.0								11	4
40		42.4								7	9
41		33.1								11	12
42		19.5								15	10
43		54.5								12	8
44		37.2								10	8
45		42.2								12	10
46		13.6								13	6